

AD-A230 178

DTIC

2

IMPROVED IHS MATERIAL SUPPORT:
MORE HEALTH CARE FOR THE DOLLAR

Report PH801R1

DTIC
ELECTE
JAN 04 1991
S D D

July 1990

Richard Nolan

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

Prepared pursuant to Department of Defense Contract MDA903-85-C-0139.
The views expressed here are those of the Logistics Management Institute at
the time of issue but not necessarily those of the Department of Defense or the
Department of Health and Human Services. Permission to quote or reproduce
any part must - except for Government purposes - be obtained from the
Logistics Management Institute.

LOGISTICS MANAGEMENT INSTITUTE
6400 Goldsboro Road
Bethesda, Maryland 20817-5886

98 052

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

| | | | | | | |
|---|-------|--|--|---|--------------------|-------------------------|
| 1. REPORT SECURITY CLASSIFICATION Unclassified | | | 1b. RESTRICTIVE MARKINGS | | | |
| 2. SECURITY CLASSIFICATION AUTHORITY | | | 3. DISTRIBUTION / AVAILABILITY OF REPORT "A" Approved for public release; distribution unlimited. | | | |
| 4. DECLASSIFICATION / DOWNGRADING SCHEDULE | | | | | | |
| PERFORMING ORGANIZATION REPORT NUMBER(S) LMI-PH801R1 | | | 5. MONITORING ORGANIZATION REPORT NUMBER(S) | | | |
| 6a. NAME OF PERFORMING ORGANIZATION Logistics Management Institute | | 6b. OFFICE SYMBOL (if applicable) | | 7a. NAME OF MONITORING ORGANIZATION | | |
| 6. ADDRESS (City, State, and ZIP Code) 6400 Goldsboro Road Bethesda, Maryland 20817-5886 | | | 7b. ADDRESS (City, State, and ZIP Code) | | | |
| 8a. NAME OF FUNDING / SPONSORING ORGANIZATION IHS | | 8b. OFFICE SYMBOL (if applicable) | | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER MDA903-85-C-0139 | | |
| 8. ADDRESS (City, State, and ZIP Code) 5600 Fishers Lane Rockville, MD 20853 | | | 10. SOURCE OF FUNDING NUMBERS | | | |
| PROGRAM ELEMENT NO. | | PROJECT NO. | | TASK NO. | | WORK UNIT ACCESSION NO. |
| 9. TITLE (Include Security Classification) Improved IHS Material Support: More Health Care for the Dollar | | | | | | |
| 11. PERSONAL AUTHOR(S) Richard Nolan | | | | | | |
| 12a. TYPE OF REPORT Final | | 13b. TIME COVERED FROM _____ TO _____ | | 14. DATE OF REPORT (Year, Month, Day) July 1990 | | 15. PAGE COUNT 100 |
| 16. SUPPLEMENTARY NOTATION | | | | | | |
| COSATI CODES | | | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) | | | |
| FIELD | GROUP | SUB-GROUP | | | | |
| | | | | | | |
| | | | | | | |
| 19. ABSTRACT (Continue on reverse if necessary and identify by block number) | | | | | | |
| <p>In 1988, the Indian Health Service (IHS), an agency of the U.S. Public Health Service (PHS), spent about \$82 million to provide its hospitals and clinics with pharmaceuticals, supplies, and subsistence. From that amount, we believe that IHS can save between \$7 million and \$13 million by improving the service it receives from its major supplier, PHS's Supply Service Center at Perry Point, Md., and by changing its own inefficient supply methods. We recommend three major steps that the PHS and IHS should take to achieve those savings.</p> <p>First, we recommend the PHS take immediate steps to transfer control and operation of its Supply Service Center at Perry Point to IHS. The Perry Point Center is the most significant Government supply source for IHS, and IHS is by far the Center's largest customer. Yet, in comparison with other Government supply depots, the Perry Point Center offers IHS poor service and charges it higher prices. In fact, IHS's own central warehouses routinely outperform the Perry Point Center. We attribute the Center's poor performance to the absence of a well-defined mission and to inadequate guidance from its parent agency, the Health Resources and Services Administration (HRSA), which has no internal need for a large supply depot. Because it stands to benefit from better medical material support, IHS has a much stronger incentive than HRSA to lower the Perry Point Center's prices and raise its level of service. Transferring the Center to IHS control is the best near-term way for the agency to reduce supply system costs.</p> | | | | | | |
| 20. DISTRIBUTION / AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT <input type="checkbox"/> DTIC USERS | | | | 21. ABSTRACT SECURITY CLASSIFICATION | | |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL | | | 22b. TELEPHONE (Include Area Code) | | 22c. OFFICE SYMBOL | |

Second, we recommend that IHS centralize all medical material support in a regional warehouse network that includes the Perry Point Center and the three IHS central warehouses in Portland, Oreg.; Gallup, N. Mex.; and Ada, Okla. While transferring the Perry Point Center to IHS control is a near-term solution to high supply costs, a more significant cost reduction can be realized by centralizing the supply support for all IHS from a network of regional warehouses serving geographically proximate customers. Since 1969, 4 of IHS's 12 operational areas have centralized their supply support; one main warehouse in each area supports all of that area's service units. In the other eight areas, each service unit must provide its own support. Because of economies of scale, buying power, and professional full-time management, central warehouses provide demonstrably better, less-expensive support. By allowing all areas to use the existing warehouses, IHS can provide those benefits to all its areas without expanding the number of warehouses.

Finally, we recommend that IHS establish a Supply Management Division within its headquarters and give that division the authority to manage and oversee the acquisition planning and distribution of supplies throughout IHS. The increased centralization we recommend cannot be realized until IHS develops a headquarters-level organization empowered to manage supply support throughout the agency. Currently, IHS headquarters neither manages nor coordinates its \$82 million supply support program, a program we believe is inefficient. Today, at IHS service units, medical professionals must be involved in supply business, and that takes valuable time from patient care.

To optimize its supply support, IHS must manage its supply program professionally and agency-wide. In the past, central warehouses have reduced costs because of their effective use of economies of scale and buying power in some areas. A headquarters-level organization to manage supply support will allow those facilities to capitalize on the economies of scale and buying power of the entire agency.

In an era of ever-more-limited budgets, IHS can ill afford inefficiency and poor support. It must act now to reduce supply costs and to recover savings for investment in better health care for Native Americans.

| | |
|---------------|---|
| Account For | |
| NTIS - CRAAI | J |
| DIIC - 113 | |
| Unpublished | |
| Justification | |
| By | |
| Distribution | |
| Approval | |
| Out | |
| A-1 | |

Executive Summary

IMPROVED IHS MATERIAL SUPPORT: MORE HEALTH CARE FOR THE DOLLAR

In 1988, the Indian Health Service (IHS), an agency of the U.S. Public Health Service (PHS), spent about \$82 million to provide its hospitals and clinics with pharmaceuticals, supplies, and subsistence. From that amount, we believe that IHS can save between \$7 million and \$13 million by improving the service it receives from its major supplier, PHS's Supply Service Center at Perry Point, Md., and by changing its own inefficient supply methods. *We recommend three major steps that the PHS and IHS should take to achieve those savings.*

First, we recommend the PHS take immediate steps to transfer control and operation of its Supply Service Center at Perry Point to IHS. The Perry Point Center is the most significant Government supply source for IHS, and IHS is by far the Center's largest customer. Yet, in comparison with other Government supply depots, the Perry Point Center offers IHS poor service and charges it higher prices. In fact, IHS's own central warehouses routinely outperform the Perry Point Center. We attribute the Center's poor performance to the absence of a well-defined mission and to inadequate guidance from its parent agency, the Health Resources and Services Administration (HRSA), which has no internal need for a large supply depot. Because it stands to benefit from better medical material support, IHS has a much stronger incentive than HRSA to lower the Perry Point Center's prices and raise its level of service. Transferring the Center to IHS control is the best near-term way for the agency to reduce supply system costs.

Second, we recommend that IHS centralize all medical material support in a regional warehouse network that includes the Perry Point Center and the three IHS central warehouses in Portland, Oreg.; Gallup, N. Mex.; and Ada, Okla. While transferring the Perry Point Center to IHS control is a near-term solution to high supply costs, a more significant cost reduction can be realized by centralizing the supply support for all IHS from a network of regional warehouses serving geographically proximate customers. Since 1969, 4 of IHS's 12 operational areas

have centralized their supply support; one main warehouse in each area supports all of that area's service units. In the other eight areas, each service unit must provide its own support. Because of economies of scale, buying power, and professional full-time management, central warehouses provide demonstrably better, less-expensive support. By allowing all areas to use the existing warehouses, IHS can provide those benefits to all its areas without expanding the number of warehouses.

Finally, we recommend that IHS establish a Supply Management Division within its headquarters and give that division the authority to manage and oversee the acquisition planning and distribution of supplies throughout IHS. The increased centralization we recommend cannot be realized until IHS develops a headquarters-level organization empowered to manage supply support throughout the agency. Currently, IHS headquarters neither manages nor coordinates its \$82 million supply support program, a program we believe is inefficient. Today, at IHS service units, medical professionals must be involved in supply business, and that takes valuable time from patient care.

To optimize its supply support, IHS must manage its supply program professionally and agency-wide. In the past, central warehouses have reduced costs because of their effective use of economies of scale and buying power in some areas. A headquarters-level organization to manage supply support will allow those facilities to capitalize on the economies of scale and buying power of the entire agency.

In an era of ever-more-limited budgets, IHS can ill afford inefficiency and poor support. It must act now to reduce supply costs and to recover savings for investment in better health care for Native Americans.

CONTENTS

| | <u>Page</u> |
|---|-------------|
| Executive Summary | iii |
| Chapter 1. Introduction | 1- 1 |
| The IHS Supply System | 1- 2 |
| IHS's Sources of Supply | 1- 3 |
| Organization of this Report | 1- 4 |
| Chapter 2. Transfer the Perry Point Supply Service Center to the Indian Health Service | 2- 1 |
| Current Operations of the Perry Point Center | 2- 2 |
| Current Service Levels of the Perry Point Center | 2- 7 |
| Costs of Inadequate Supply Service | 2-14 |
| Recommendation: Transfer the Perry Point Center to the IHS | 2-18 |
| Chapter 3. Improve Perry Point Center's Performance | 3- 1 |
| Actions IHS | 3- 2 |
| Perry Point Center Actions | 3-24 |
| Chapter 4. Centralize IHS Supply Support | 4- 1 |
| Overview | 4- 1 |
| Organization of this Chapter | 4- 4 |
| Economic and Service Benefits of Centralized Supply Support | 4- 5 |
| The IHS Warehouse Support Network | 4-16 |
| The Future of the Perry Point Center | 4-27 |
| Chapter 5. Establish the IHS Division of Supply Management | 5- 1 |
| Current IHS Supply System Organization | 5- 2 |
| Division of Supply Management | 5- 4 |
| Chapter 6. Summary of Recommendations | 6- 1 |

CHAPTER 1

INTRODUCTION

The Indian Health Service (IHS), an agency of the U.S. Public Health Service (PHS), provides direct health care services to more than a million Native Americans throughout the contiguous United States and Alaska. Highly decentralized, IHS divides responsibility for management of that care among 12 semiautonomous, operational areas shown in Figure 1-1. Within each area, health care is delivered at service units staffed with medical professionals. The sizes of those facilities vary from major hospitals in urban settings to single-person health clinics in remote areas.

The IHS areas collectively spent approximately \$82 million for pharmaceuticals, medical supplies, and subsistence in FY88. Almost 80 percent of that

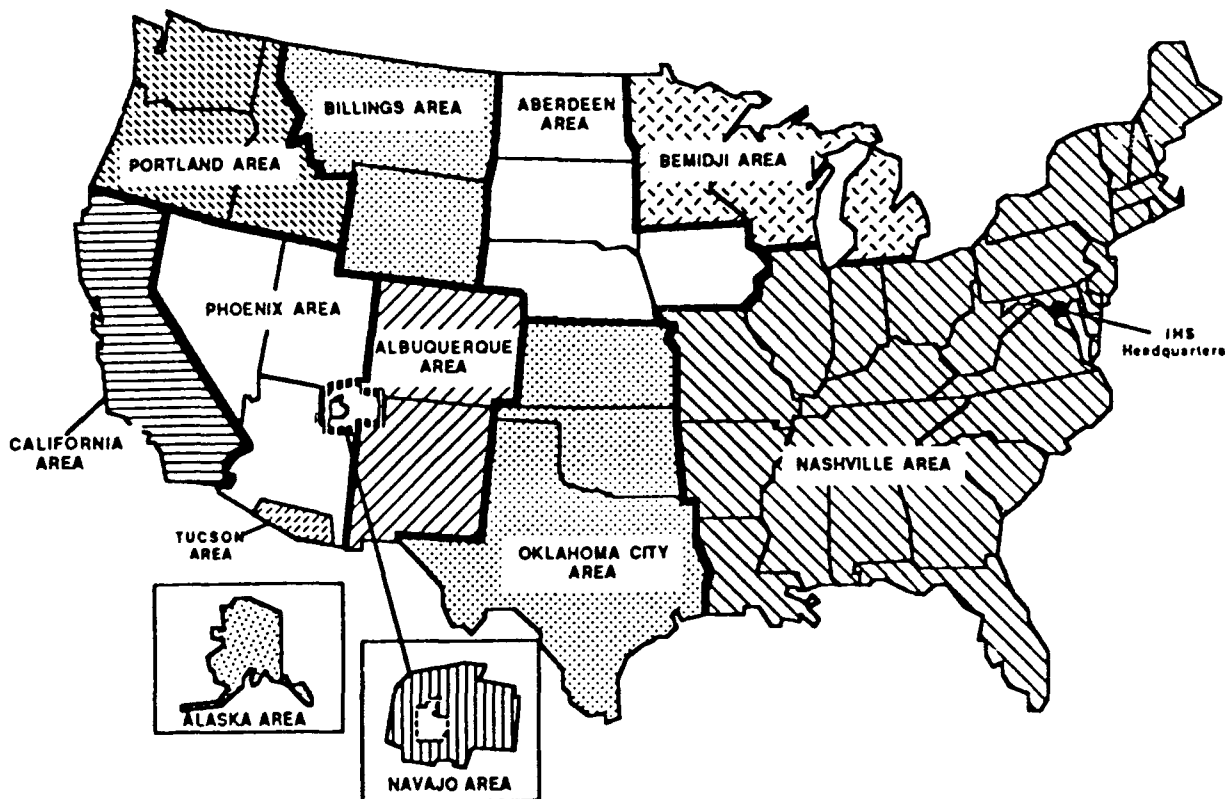


FIG. 1-1. IHS OPERATIONAL AREAS

amount — \$65 million — was spent on material purchased from Government and commercial sources. The remaining amount, estimated to be \$17 million, was spent on labor, transportation, inventory functions, and facilities needed to deliver that material to health providers. In this report, we recommend reduction to IHS costs by addressing IHS's methods of managing and delivering material support and the quality of support from its largest single source, the Perry Point Supply Service Center.

THE IHS SUPPLY SYSTEM

We refer to the various methods used by IHS to manage and deliver material support as the IHS supply system. That system is not a single entity but is really 12 independent subsystems — one in each area shown in Figure 1-1.

Because each area decides how it should satisfy its own material needs, the means of supply support between areas differ considerably. Since 1969, four areas have centralized their supply operations by supporting all their service units from one central area warehouse. Eight areas remain decentralized with each of their service units providing its own support.

At the headquarters level, IHS neither coordinates nor manages the supply system. It has a small supply staff in Albuquerque, N. Mex. to develop operating standards and monitor area and service unit supply performance. Its position at a low-level in the agency and its lack of authority, however, make it ineffective in improving the supply system.

The inadequacy of headquarters' involvement and the multiple methods with which areas meet their material needs has made the IHS supply system costly and ineffective. IHS has not exploited agency-level economies of scale and buying power, thereby missing out on significant savings. Inequities in supply support among the areas have produced serious differences in the quality and cost of that support from one area to the next. Evidence we provide clearly shows, for instance, that centralized area support is more responsive and cost-effective than decentralized area support under which each service center — however small — is on its own. Because IHS has not coordinated the efforts of adjoining areas for mutual support, service units in decentralized areas have been forced to order material from sources

thousands of miles away even though they may be located only a short distance from another area's centralized warehouse.

One particularly troublesome, harmful aspect of ineffective supply support is the waste of professional medical time. Medical professionals in IHS service units have told us that they have had to become involved in logistics when the supply system failed to satisfy their material needs. That involvement has taken considerable time and has been at considerable expense to patient care.

IHS'S SOURCES OF SUPPLY

In 1988, IHS purchased medical material worth \$64 million from four general sources (see Figure 1-2): Government sources, Government contracts, open market purchases, and cash purchases using Standard Form (SF)44. Open market purchases include those made from commercial firms with whom the Government has no contract. Government source purchases are those from other agency or department supply warehouses. Expenditures among those sources are \$10.1 million from the PHS Supply Service Center at Perry Point, Md.; \$7.5 million from the Department of Veterans Affairs (VA); \$1.5 million from the General Services Administration (GSA); and \$0.9 million from the Department of Defense (DoD). Government contract purchases are those from civilian firms using existing Government contracts.

The PHS Supply Service Center in Perry Point, Md., run by the Health Resources Services Administration (HRSA), an agency of the PHS, is mandated as a source of material for all PHS organizations.¹ It is the largest single source for agency material.

As a customer of the Perry Point Center, IHS represents 64 percent of its total sales. That amount makes IHS the Perry Point Center's only large customer – in fact, in 1988 it was ten times larger than the next largest – but has not assured IHS of good service. Compared with the service offered by other Government and commercial organizations and IHS's own central warehouses, the Perry Point Center's service was poor and cost the agency dearly in significantly higher material, labor, transportation, inventory, and facility expenditures.

¹Department of Health, Education and Welfare, *Regulation*, TN-76 (December 30, 1976) Sec 103-26.750-1.

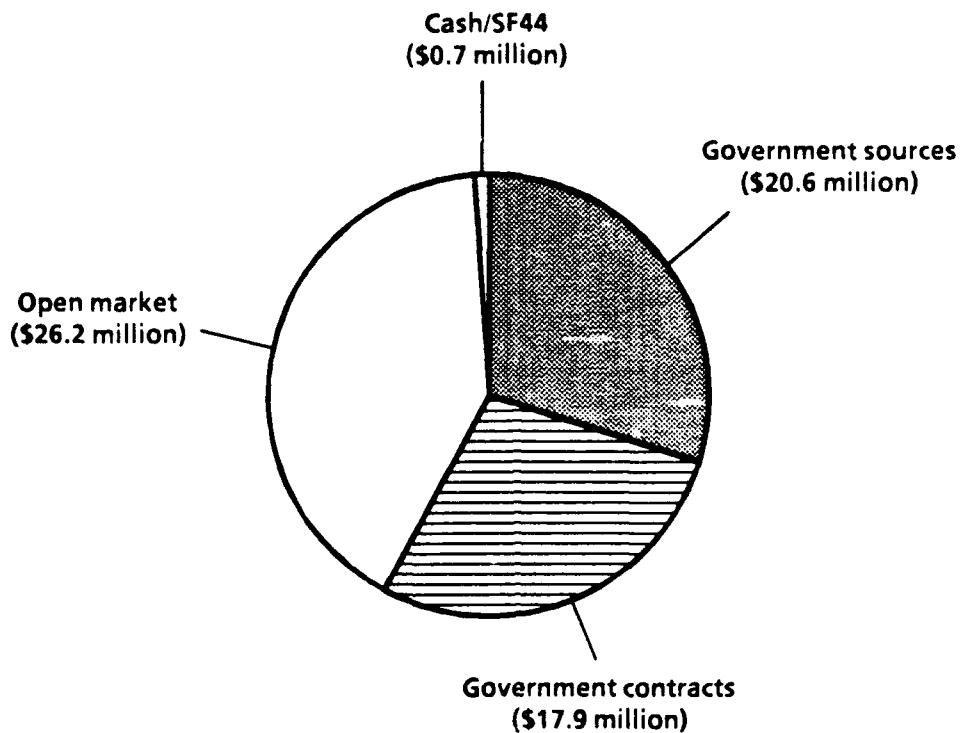


FIG. 1-2. SOURCES OF IHS MEDICAL MATERIAL IN FY88

ORGANIZATION OF THIS REPORT

This report recommends a course of action by which IHS can significantly reduce its material support costs now and a system that will effectively limit those costs in the future. In IHS's current budgetary environment, reduction of material support costs is particularly timely. High costs divert money from patient care and ultimately reduce the amount of care provided.

This report is organized in five chapters. Chapter 2 recommends the transfer of the Perry Point Center from HRSA to IHS. Even though sales to IHS are nearly twice as large as those to all other Perry Point Center customers combined and are therefore clearly the only substantial reason that the Perry Point Center exists, the IHS has not been served well. We have concluded that poor service was the result of the Center having neither a clearly defined purpose nor the direction needed to achieve such a purpose. With the proper organization, IHS can give it both. In

Chapter 3, we recommend specific actions to improve the Center's service. Those actions are also applicable to the operation of other central depots.

Our recommendations in Chapter 3 are quite comprehensive and will require much attention by IHS management. It could be argued that the Perry Point Center should be closed instead. We strongly disagree. The Center is essential to many IHS and non-IHS customers, customers who would turn to costly open market sources if another reliable source were not immediately available. IHS's other central depots are not currently capable of assuming responsibility for those customers because they lack the organization, capacity, and funding mechanisms needed to do so. In Chapter 4, we address the need to keep the Perry Point Center open.

In Chapter 4, we also recommend that IHS centralize the supply support of all its facilities from its existing central warehouses in Portland, Oreg.; Gallup, N. Mex.; and Ada, Okla.; and the Perry Point Center. IHS's three warehouses have shown considerable success and sophistication in managing the material needs of their area customers. Our recommendation makes them the core of a new supply warehouse network that will provide the same benefits to all facilities IHS-wide. Within that context, we address the location and future of the Perry Point Center.

Chapter 5 deals with the establishment of an IHS Supply Management Division to manage material support throughout the agency. We discuss the authority that division must have and the actions it must take to optimize material support IHS-wide. Part of that authority includes responsibility for operating central warehouses and the Perry Point Center.

The IHS needs both a short- and long-term strategy for agency cost reduction. For significant and rapid change, it needs to establish and empower an organization to make those changes. That organization should be the newly established Supply Management Division; its first responsibility must be to transfer and incorporate the Perry Point Center into IHS, and then it must develop measures to improve the Center's service.

The centralization of supply support will produce even greater benefits but will take time to fully implement. For that to occur, the management provided by the new IHS Supply Management Division will be critical.

In this report, we refer to the need to reduce system costs without always mentioning in the same context the concomitant need to also improve service. Service levels are, in fact, a major influence on material costs. When service is poor, IHS's costs are higher to compensate for that poor service. When we recommend actions to reduce material system costs, we are simultaneously recommending actions that will improve service.

CHAPTER 2

TRANSFER THE PERRY POINT SUPPLY SERVICE CENTER TO THE INDIAN HEALTH SERVICE

We recommend that the Public Health Service transfer the administration and operation of the PHS Supply Service Center at Perry Point, Md., from HRSA to IHS quickly. We found the Perry Point Center's customer service to be well below the level of that of comparable Government organizations and IHS's own central warehouses. We also found that poor service unnecessarily increased IHS's material costs. To successfully carry out its primary mission, the Perry Point Center must improve its service. We believe that improvement will occur most readily if the Center is placed under IHS control.

To improve that service, the Center needs direction and strong leadership. HRSA's past record managing the Center, its current austere funding, and the Center's inability to contribute to HRSA's primary mission reduce the likelihood that agency will provide either direction or leadership.

On the other hand, IHS has a strong incentive to improve the Perry Point Center. As that improvement occurs, agency supply system costs should decline, making more money available for reinvestment in health care. Furthermore, IHS also has a proven track record in material management. The management of warehouses in the Oklahoma, Navajo, and Portland areas is the best we have seen anywhere in the PHS. IHS has the incentive to manage the Center well and has demonstrated its capacity to do so. Thus, we conclude IHS management of the Perry Point Center is likely to produce considerable improvement in service.

In this chapter, we describe the customers, facilities, operations, funding, and services of the Perry Point Center to provide the context in which to judge its effectiveness in meeting customer needs. We examine how well the Center is meeting those needs, conclude that the service is poor in comparison to similar organizations, and discuss why it needs to improve. We also discuss why IHS rather than HRSA should implement the needed improvements.

CURRENT OPERATIONS OF THE PERRY POINT CENTER

The PHS Supply Service Center at Perry Point provides pharmaceuticals, supplies, and medical services to approximately 1,500 PHS and other Government customers throughout the world. Located 80 miles north of Washington, D.C., the Perry Point Center operates out of two buildings that belong to the VA.

In 1988, Perry Point Center sales were \$15.7 million. Nearly two thirds of that amount (64 percent) was to IHS (see Figure 2-1). That made IHS sales almost twice as large as those of all other customers combined and 10 times larger than those of the next largest customer.

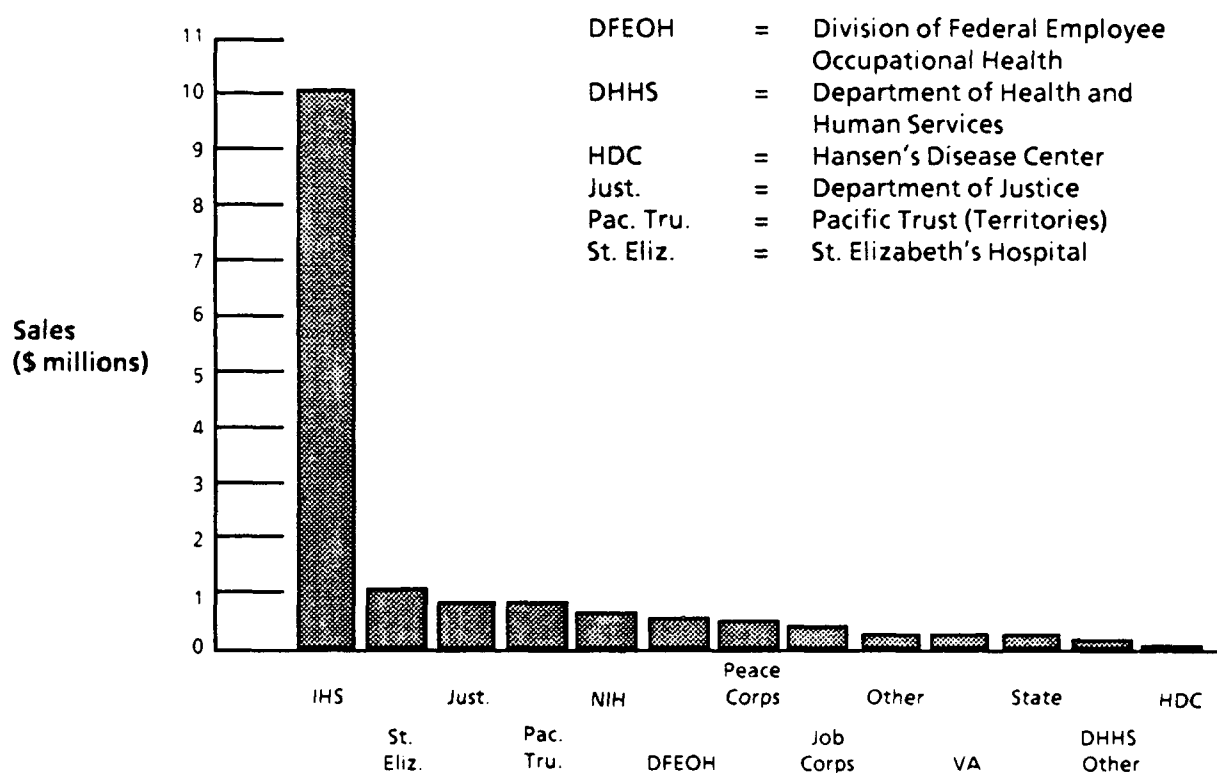


FIG. 2-1. PERRY POINT SALES VOLUME BY CUSTOMER

Figure 2-2 arrays the same 1988 sales by customer location. It shows that 73.3 percent of Perry Point Center orders were shipped west of the Mississippi River, mostly to IHS customers.

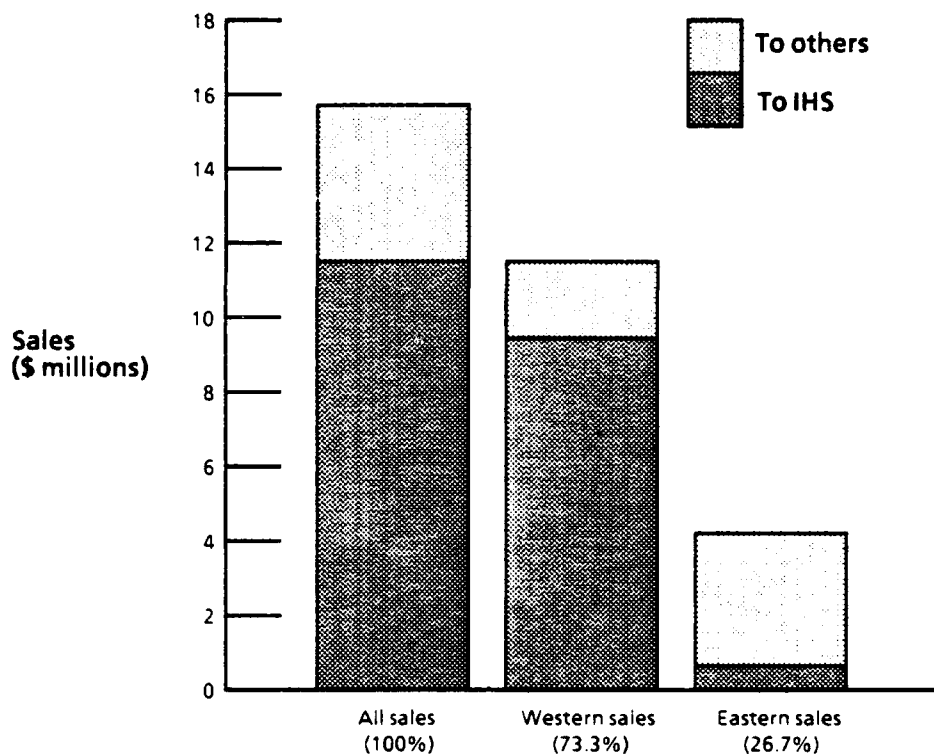


FIG. 2-2. PERRY POINT CENTER SALES BY CUSTOMER LOCATION WEST/EAST OF MISSISSIPPI RIVER (Longitude 90 degrees)

Sources of Revenue

To generate its \$15.7 million annual sales and to fulfill customer demands, the Perry Point Center stocks about 4,000 line items. Much of that amount is pharmaceuticals sold in manufacturer-packaged quantities. A much smaller amount (\$1.6 million) is material repackaged at the Center into smaller quantities for customers who do not have the space to hold normal manufacturer quantities. In some cases, the Center manufactures a new item by mixing two or more pharmaceuticals. Both repackaging and manufacturing are done under Food and Drug Administration (FDA) license.

Another source of Perry Point Center sales revenues is the service it provides to various medical customers. In the past, the Center has provided temporary storage for other Government organizations. Currently, it provides multiyear assistance to the National Institutes of Health (NIH) for studies of various experimental drugs.

Source of Stock for Resale

The material that the Perry Point Center sells is primarily purchased through active Government contracts. Since those contracts offer increased discounts for progressively larger orders and since the Perry Point Center is able to buy in large quantities, the Center is usually able to purchase material at the lowest contracted price.

One type of contract that continues to be used more and more and accounts for over half of what the Perry Point Center buys for resale is known as the "shared procurement contract." Those contracts are jointly set up and administered by the VA, DoD, and PHS. Because of the extremely large volume of their combined purchases, such contracts offer major cost savings, require the product shelf life to be a minimum of 18 months, and take advantage of transportation charges that are paid by manufacturers. Insofar as transportation is concerned, shared procurement contracts specify delivery points to which manufacturers must ship at no cost. DoD has four points, VA has three, and PHS has one — the Perry Point Center. To oversee the management of shared procurement contracts, the director, Division of Grants and Contracts, in the Office of the Assistant Secretary for Health, sits on the shared procurement governing board.

Functions Performed at the Center

In providing service to its customers, the Perry Point Center performs a typical range of warehouse functions. Inventory managers stock for resale items required by customers and attempt to keep those items in stock. On-site procurement personnel replenish those items, and a full warehousing staff receives, stocks, issues, and ships the material. The warehousing staff also operates a drug repacking and manufacturing operation as required to maintain items in specific quantities.

Automated Systems

Like similar operations at the VA and DoD, the Perry Point Center is automated. An IBM System 36 minicomputer maintains real-time stock balances; tracks sales; and prints purchase orders, picking documents, shipping labels, and management reports.

Electronic Ordering

The Perry Point Center's computer also enables customers to order electronically. Using the Center's on-line electronic ordering system, called PECOS, customers are able to use a touch tone telephone or a portable electronic terminal to transmit their orders instantaneously in a form that the Center's computer can immediately use.

The PECOS system provides mutual benefits to the Center and its customers. For the Center, it eliminates mailing time for a purchase order, speeds in-house order processing, and eliminates many of the errors associated with keypunched data entry. Thus, customer's orders arrive sooner and are processed faster and more accurately. Although it prefers electronic order entry, the Center also accepts orders by any other means customers prefer. Since U.S. Postal Service and facsimile (FAX) are prevalent, keypunching is still required.

Method of Funding Operations

The Perry Point Center operates as a component of the PHS Service and Supply Fund (SSF) under Public Law 79-124. Unlike appropriated fund activities, it derives all of its operating funds from the sale of material and services, and by law, it must cover all of its costs with those revenues. To do that, the Center marks up the cost of material it receives from its vendors to cover operating expenses such as labor and utilities. Additional markups are applied when capital is needed for nonrecurring requirements such as material-handling equipment, space renovations, or inventory increases.

The Center's average markup of 13 percent produced nearly \$600,000 in excess revenue in 1988. Unlike appropriated fund activities, the Center did not have to return that excess to the U.S. Treasury at year end. Instead, the money remained in the PHS Service and Supply Fund for later use. In the past, PHS has used excess funds to expand inventories to serve new customers. Half of the FY88 excess is now being used to renovate the Perry Point Center facilities.

Both the VA and the DoD markups were lower than that of the Perry Point Center; VA charged 6 percent and DoD 8 percent. Unlike the Perry Point Center, VA and DoD pay for transportation of customer orders from those markups. The carrier

used by the Center to deliver material submits invoices directly to each customer for transportation.

The difference in markup policies between the Perry Point Center and other Government agencies has caused the Center's customers considerable trouble and some expense. When transportation is not included, the customer cannot compare prices with those of other sources since transportation costs for the same item vary significantly depending upon the size and method of delivery. In addition, administrative burden is increased because every Center order generates two invoices that must be paid to two different entities: one for material from the Center and the other for transportation from the carrier.

The Perry Point Center employs 40 people, making labor the largest operating expense its markups must cover. Of the 40 people, 36 civilians and 3 Commissioned Corps PHS officers work at the Perry Point Center. One person, a Commissioned PHS officer, works in the office of the Branch Chief of HRSA's Material Management Office in Rockville, Md. Three additional persons support Perry Point Center's operations but are not employed or paid by the Center. They include the HRSA Material Management Branch Chief and two supply systems analysts in the Branch's office. Those individuals spend approximately 80 percent of their time supporting the Perry Point Center but are fully paid from HRSA's appropriated fund budget.

Health Resources Support Administration

The Perry Point Center is managed by HRSA, a PHS agency formerly responsible for two, large, direct-health-care delivery systems; PHS hospitals and IHS. As part of HRSA, the Perry Point Center played an important part in delivering cost-effective material support to health care. In the early 1980s, however, the Reagan Administration first privatized PHS hospitals and then in 1988, elevated IHS to agency status. As those losses occurred, HRSA's primary mission changed and, now, that mission no longer focuses on direct health care.

Those changes to HRSA's mission have reduced the importance of the Perry Point Center in HRSA and have condemned it to relative obscurity in that agency. In the absence of strong leadership and direction from HRSA, the Center has lost touch with its customer's needs and the primary purpose for which it was established: support of PHS activities. Compared with similar Government and non-Government organizations, Perry Point Center prices are higher and its service levels are far

lower. Without clear direction from HRSA, the Center's management has continued to build sales to other non-PHS customers while ignoring the need to improve poor service to its existing PHS customers.

CURRENT SERVICE LEVELS OF THE PERRY POINT CENTER

To establish how well the Perry Point Center serves its customers, we examined its performance in four key areas. Used by other depots as important customer service indicators, those areas are as follows:

- Fill rate – the percentage of time customers have their entire order completed or "filled"
- Delivery time – the time it takes a customer to receive an order
- Delivered price – the cost customers pay to obtain material and have it delivered
- Quality – how often material meets the customer's requirements.

Fill Rate

We calculated the Perry Point Center's 1988 fill rate at 82.9 percent. That rate was well below those of comparable organizations where 95 percent was both a minimum standard and a routine achievement (see Table 2-1). Customers were well over three times more likely to find the Perry Point Center out of stock than the VA or one of IHS's own central warehouses. That low fill rate led to the following situations that invariably produce higher agency costs:

- Stocks were bought from alternative sources by service units until the Perry Point Center stocks arrived. Because purchase quantities were small, unit prices were usually higher.
- Transportation costs were higher because critical items often had to be shipped by premium methods.
- Labor costs were higher for both administrative personnel and medical professionals who found, bought, received, and processed material from an alternative source. These costs multiplied rapidly when a popular item such as oral contraceptives was backordered from Perry Point Center and many service units were forced to find it elsewhere.
- Inventories increased over time in anticipation of future Perry Point Center shortages and because of the desire to avoid the higher costs of alternative sources.

TABLE 2-1
FILL RATE COMPARISONS OF SIMILAR ORGANIZATIONS

| Indicator | Perry Point Center | VA depot | IHS central warehouse | Large civilian hospital warehouse |
|---------------|--------------------|----------|-----------------------|-----------------------------------|
| Fill rate (%) | 82.9 | 95 | 98.2 | 96.2 |

- Scarce service unit space was diverted from health care for the storage of larger inventories.
- Inventory carrying costs such as obsolescence, damage, and theft were greater because of higher inventories.

The net effect of low Center fill rates is higher supply costs for individual service units. Those costs are not only reflected in higher material purchase costs but in higher labor, transportation, inventory, and facility costs.

Delivery Time

The speed with which an order is delivered is important to customers because it affects how much inventory they must keep on hand. If an order arrives in 1 week rather than 3 weeks, less inventory is needed to ensure against depletion of local stock. When we asked the Perry Point Center's IHS customers to rank their sources for delivery time, they nearly always ranked the Center slower than VA or IHS central warehouses. Our examination of receipt records confirmed that appraisal. Examples of 3- and 4-week delivery times, for instance, were not uncommon.

It would be unfair, however, to hold the Perry Point Center totally accountable for that performance since it has little control over some of the factors that affect delivery time. For a valid comparison of the Perry Point Center delivery performance, we separated delivery time into three distinct segments that isolated what the Center could and could not control. Those segments are as follows:

- *Order placement time:* the time for an order to travel from the customer to the Perry Point Center. The method used by customers to send an order to the Perry Point Center (and sometimes the distance) determine the length of this segment. A purchase order mailed to the Perry Point Center from a

remote western IHS service unit might take a week or more; an electronic transmission via PECOS takes less than a minute. This time is controlled mostly by the customer.

- *In-house processing time:* the time required to process, pick, pack, and ship an order. Time in most of this segment is controlled by the Perry Point Center although customer use of electronic ordering may shorten it by eliminating keypunch efforts.
- *Transportation time:* the time it takes a carrier to deliver material from the Perry Point Center to the IHS customer. Distance, customer shipment sizes, and the Perry Point Center's choice of transportation mode and carrier strongly influence transportation time.

In the order-placement segment, the distance between the Perry Point Center and its customers may affect delivery time, while in the transportation time segment it clearly has a strong effect. As illustrated in Figure 2-2, 73 percent of the Perry Point Center's sales come from customers located west of the Mississippi River. A large portion of those customers are in remote, distant locations. Because they depend heavily on the mail, their purchase orders often take a week or more to reach the Perry Point Center. When their orders are shipped from the Center, delivery time is affected by their distance and remoteness.

That time is also increased by the small order size for most remote customers. Large customer orders might justify an entire truckload moving nonstop, but small orders are handed from one carrier to another. Final delivery may then depend upon the last carrier's ability to accumulate sufficient freight to justify a long drive to a remote location.

By contrast, VA and IHS central warehouses are closer to their customers, which shortens their order-placement and transportation segments of delivery time. Most IHS central warehouses, in fact, are close enough to their customers that order placement and transportation segments are only 1 day each. Similarly, VA warehouses are centrally located (one on each coast and one in Chicago) to reduce transportation time and cost to primary customers. Widespread electronic order placement essentially eliminates distance as an influence on order placement time.

Even with the limitations distance and order placement methods impose, we were able to make some comparisons and judgments of the Perry Point Center delivery times. In Table 2-2, we compare in-house processing times, a segment over which the Perry Point Center had a high degree of control (PECOS orders will reduce

in-house processing time, but the Center has not mandated the use of that method). At 13 days, the Perry Point Center's time was nearly 3 times that of the VA (5 days) and 6 times that of an IHS central warehouse (2 days).

TABLE 2-2
IN-HOUSE PROCESSING TIME
COMPARISONS FOR COMPARABLE ORGANIZATIONS

| Indicator | Perry Point Center | VA depot | IHS central warehouse | Large civilian hospital warehouse |
|---------------------------------|--------------------|----------|-----------------------|-----------------------------------|
| In-house processing time (days) | 13 | 5 | 2 | 2 |

Because of the strong effect of distance on the transportation segment, we could not make direct comparisons with other depots. Instead, we qualitatively evaluated how the Perry Point Center chose the transportation mode and carrier to minimize the effect of distance on transportation time. What we found indicated that the Center did little to reduce transportation time. While it selected common carriers to deliver customer shipments, it did so without knowing how long it would take for them to deliver a shipment or how well those carriers had performed in the past.

As an example, we found shipments to the Zuni-Ramah Service Unit in Arizona taking 5 weeks to arrive from the Perry Point Center. Close examination indicated that the ordered material had been routed on a motor carrier with a terminal in Albuquerque where it sat awaiting sufficient freight for the carrier to justify the 10-hour round trip to the service unit. Had the Perry Point Center chosen a different carrier, the Zuni shipment would have arrived in about a week by way of Gallup, N. Mex., where that carrier had a terminal about 30 miles and less than 1 hour distance from Zuni-Ramah. If the use of that carrier had coincided with a large-volume shipment to the Navajo central warehouse in Gallup, Zuni shipments would have gone not only faster but at lower transportation rates. After Zuni-Ramah complained, the Center changed to the Gallup-based carrier.

Many field units believe that constant complaining is the only means of improving service, and rather than do that, they simply put up with poor delivery times. They are reluctant to complain out of concern that future service might be jeopardized even further.

In general, we found the Perry Point Center's management of delivery time very limited and reactive. If complaints were received, the Center dealt with them individually, but it seemed not to recognize systemic approaches as the means of preventing future complaints. Once material left its shipping dock, the Center considered its job done. Carrier performance was not tracked nor linked to the award of future business.

Delivered Price

Perry Point Center's prices are higher than those of the same items carried by VA and are marginally higher than those carried by DoD. To arrive at that conclusion, we first determined how much the Perry Point Center and VA customers paid for the same items delivered to the customer's receiving dock. Perry Point Center prices were increased by 2.5 percent to account for the cost of transportation. Since DoD and VA prices on the same item differed by 2 percent in 1988 (VA markup is 6 percent, DoD 8 percent), we formed our conclusions about Perry Point Center/DoD price differences by examining the percentage difference between VA and Center prices.

In our initial comparison of Perry Point Center and VA prices, we compared the prices of each of VA's 50 top selling items to the prices for the same items from the Perry Point Center. Table 2-3 displays the results of that study.

Of the 50 items we investigated, 34 were stocked by both depots. Of the 34 mutually stocked, high-volume items, 33 were more expensive at the Perry Point Center.¹ The Center's FY88 delivered costs for the 34 common items totaled \$1,881,200. Had IHS service units bought the same items from the VA, they would have paid only \$1,763,700, a potential saving of \$117,500 (or 6.25 percent).

¹The 2.5 percent we added to the Perry Point Center prices for transportation is used by DoD in its budgeting and cost recovery calculations. It is the most reliable measure of transportation costs we were able to identify. Perry Point Center's actual percentage may be higher. DoD consolidates freight extensively to reduce freight costs while the Perry Point Center does not.

TABLE 2-3
COMPARISON OF PERRY POINT AND VA'S TOP 50 SALES ITEMS
(2.5 percent used for Perry Point transportation)

| Medical material | Average unit of issue Perry Point cost (dollars) | Perry Point markup (percent) | Perry Point prices with transportation (dollars) | VA unit price (dollars) | VA other Government organizations (OGA) sale price (dollars) | VA savings without OGA (dollars) | VA savings with OGA (dollars) |
|--------------------------|--|------------------------------|--|-------------------------|--|----------------------------------|-------------------------------|
| Mylanta II | 17 82 | 12 | 20 46 | 18.20 | 18 84 | 905 | 650 |
| Metapr average | 2 20 | 12 | 2 53 | 2 24 | 2 32 | 9,102 | 6,604 |
| Dyazide capsules | 87 53 | 8 | 96 90 | 89 32 | 92 45 | 2,087 | 1,226 |
| Amikin 500 Mg | 17 90 | 10 | 20 18 | 18 94 | 19 60 | 724 | 337 |
| Minipress capsules | 33 05 | 10 | 37 26 | 33 71 | 34 89 | 4,277 | 2,857 |
| Minipress capsules | 45 97 | 9 | 51 36 | 46.89 | 48.53 | 4,927 | 3,118 |
| Minipress capsules | 78 37 | 8 | 86 76 | 79 94 | 82 74 | 4,284 | 2,525 |
| Naprosyn tablets 250 Mg | 144 19 | 7 | 158 14 | 147 07 | 152 22 | 16,167 | 8,650 |
| Tagamet 300 Mg | 27 09 | 11 | 30 82 | 27 64 | 28 61 | 3,945 | 2,746 |
| Amikin 1 Gm | 283 95 | 7 | 311 42 | 374 54 | 387 65 | (189) | (229) |
| Lopressor tablets 50 Mg | 117 04 | 7 | 128 36 | 119 38 | 123 56 | 2,106 | 1,127 |
| Lopressor tablets 100 Mg | 210.67 | 7 | 231 05 | 214.88 | 222 40 | 1,772 | 948 |
| Tolectin capsules | 15 30 | 12 | 17.56 | 15 61 | 16 16 | 1,286 | 926 |
| Plantinol F/injection | 77 70 | 6 | 84.42 | 72 06 | 74 58 | 189 | 150 |
| Carafate tablets 1 Gm | 26.35 | 11 | 29 98 | 26 88 | 27 82 | 4,763 | 3,312 |
| Nifed capsules 10 Mg | 20.38 | 11 | 23 19 | 22 45 | 23 24 | 4,239 | (278) |
| Cephu syrup | 13 90 | 12 | 15 96 | 14.18 | 14 68 | 3,170 | 2,285 |
| Nifed capsules 10 Mg | 59 92 | 8 | 66.33 | 66.10 | 68 41 | 111 | (997) |
| Feldene capsules 20 Mg | 420 06 | 6 | 456 40 | 428 46 | 443 46 | 8,632 | 3,998 |
| Cardizem tablets 30 Mg | 17 17 | 12 | 19.71 | 17 51 | 18.12 | 5,267 | 3,801 |

TABLE 2-3

COMPARISON OF PERRY POINT AND VA'S TOP 50 SALES ITEMS

(2.5 percent used for Perry Point transportation) (Continued)

| Medical material | Average unit of issue Perry Point cost (dollars) | Perry Point markup (percent) | Perry Point prices with transportation (dollars) | VA unit price (dollars) | VA other Government organizations (OGA) sale price (dollars) | VA savings without OGA (dollars) | VA savings with OGA (dollars) |
|------------------------|--|------------------------------|--|-------------------------|--|----------------------------------|-------------------------------|
| Cardizem tablets 60 Mg | 28 05 | 11 | 31 91 | 28 61 | 29 61 | 11,497 | 8,012 |
| Tagamet 400 Mg | 29 28 | 11 | 33 31 | 29 87 | 30 92 | 5,344 | 3 722 |
| Diabeta tablets | 74 97 | 6 | 81 45 | 76 47 | 79 15 | 15,822 | 7 327 |
| Trenta tablets 400 Mg | 22 81 | 11 | 25 95 | 23 27 | 24 08 | 1,803 | 1,255 |
| Gluctrol tablets | 13 69 | 12 | 15 72 | 13 96 | 14 45 | 3,686 | 2,661 |
| Gluctrol tablets | 24 18 | 11 | 27 51 | 24 66 | 25 52 | 3,207 | 2,236 |
| Maxide tablets | 66 28 | 6 | 72 01 | 33 00 | 34 15 | 5,008 | 4,860 |
| Ibupro tablets | 17 36 | 12 | 19 93 | 12 94 | 13 39 | 2,027 | 1,896 |
| Micronase tablets | 149 94 | 6 | 162 91 | 152 94 | 158 29 | 3,792 | 1,756 |
| Sponge gauze | 1 48 | 10 | 1 67 | 1 46 | 1 51 | 3,588 | 2,709 |
| Glove patient exam | 6 54 | 13 | 7 55 | 6 06 | 6 27 | 27,387 | 23,476 |
| Glove patient exam | 6 54 | 14 | 7 61 | 6 06 | 6 27 | 15,198 | 13,120 |
| Pad protective | 21 97 | 11 | 25 00 | 22 38 | 23 16 | 1,037 | 726 |
| Total savings | | | | | | 177,157 | 117,516 |

At the time of our analysis, the Perry Point Center and the VA stocked 709 items in common. For those items, Perry Point Center's customers paid \$6,174,000. From the savings identified in the Table 2-3 comparisons, we estimate that Perry Point Center's customers would have saved \$386,000 had the same items been bought from the VA. Since IHS represented 64 percent of the Perry Point Center's business, we estimate the agency paid \$247,000 more for its material at the Perry Point Center than it would have had it bought the same items from the VA.

From this analysis, we also concluded that DoD prices were marginally less than those of the Perry Point Center. Comparison of Perry Point Center and VA prices showed an average difference of 2.3 percent. Since DoD markups are 2 percent more than VA's, we conclude that DoD prices would be only 0.3 percent less than those of the Perry Point Center (DoD prices reflect the cost of maintaining larger war-reserve inventories).

Quality

In supply support, quality is defined as giving customers the supplies they want. For pharmaceuticals, customers primarily want a reliable source of material that has sufficient shelf life to minimize replacement costs. Perry Point Center customers indicated to us that when the Center shipped material, they were receiving items with as little as 2 months remaining life. Such material increases customer costs for supplies and labor because of the more frequent need to replace it.

Several customers used as an example Epinephrine, or EPI, an expensive drug for heart attack victims. To be effective, EPI must be administered immediately after a heart attack. Service units, therefore, keep several days' supply on hand to deal with on-the-spot coronary problems. When EPI arrives from the Perry Point Center with as little as 2 months shelf life remaining, service units must spend more time and money replacing it as it expires. One IHS hospital in the Portland area actually bought EPI at a significantly higher commercial price from a local community hospital to reduce its overall costs. Because the hospital's supply of EPI had a full year of shelf life, it did not have to be replaced as often. Net costs to the service unit were less.

COSTS OF INADEQUATE SUPPLY SERVICE

In each of the four key customer service areas – fill rate, delivery time, delivered price, and quality – we found that the Perry Point Center performs below the level of comparable organizations. We also noted that that performance costs the Center's customers money, particularly its PHS customers, who by regulation must buy there.

As the Perry Point Center's largest customer, IHS has experienced the highest cost penalties from that service. In compensating for the Center's poor service and higher prices, IHS inventories have risen and IHS labor, transportation, material,

and facility costs have all been higher than they would be if service levels were comparable to those of other supply depots.

In Chapter 4, we estimate savings associated with the reduction of IHS service unit inventories, which have grown for several reasons. The complexity of the IHS supply system, however, prevents us from differentiating the Perry Point Center's effect on those inventories from effects caused by other factors. Nonetheless, we found repeated evidence that the Center's service affected agency supply system costs and that the effect was sizable.

To demonstrate the effect better, we considered the consequence of the Perry Point Center's low fill rate on a single-service unit's costs and then on agency supply costs in general. We focused on fill rate because we believe it has the most significant effect on IHS supply costs.

Costs to The Service Unit

In the view of a service unit, the Perry Point Center's low fill rate means a greater probability that the Center will not have important items in stock. The first indication of a problem comes several weeks after a service unit sends its order to the Center. At that time, it receives a notice by mail that some ordered material is not in stock (NIS). That notice includes a backorder release date that indicates when the Center expects to receive additional stock that it will then ship to the service unit.

An NIS notice immediately forces the service unit to answer two key questions: How critical are the backordered items to patient care and are local stocks likely to be sufficient until the material arrives from the Perry Point Center? If backordered material is critical to patient health, the service unit will invariably decide that local stocks are not sufficient because the unit does not have enough valid data on which to base a decision. To judge whether local stocks are sufficient requires that a service unit have an accurate estimate of the receipt date for backordered material. Perry Point Center provides a date (backorder release date), but field units widely regard that date as inaccurate. Without an accurate date, the service unit must locate material from an alternative source and purchase it quickly.

Because by this time several weeks have passed since the service unit placed its original order and received the NIS indication, the service unit frequently concludes it does not have enough time to order from another low-cost Government facility (VA

or DoD for example). At best, it may be able to buy material at a reduced price from a source with whom the Government has a contract. The small volumes that the service unit is likely to purchase, however, will probably be bought at a price above that offered by a Government depot. At worst, the service unit must buy the material at whatever price it can be found on the open market. We found open market prices to be, on average, 30 percent higher than prices from the Perry Point Center. As Figure 1-2 shows, IHS spent 26.2 million in 1988 on medical material on the open market. The same level of open-market purchases by VA was enough to force Congress to legislatively direct VA to reduce to 20 percent.

The service unit's costs for interim stocks can be quite high, even from Government contracts. As an example, small quantities of NPH Human Insulin in 10 ml vials cost service units \$5.34 from the Perry Point Center (2.5 percent added for transportation) and \$5.75 from Squibb on a GSA contract. The 8 percent higher price from Squibb results from the small purchase quantity. That price decreases as purchased quantities increase. For open-market purchases, costs are substantially higher. Ortho Novum 150 oral contraceptives (28 pack, 1 cycle) which are not on contract, are \$.79 delivered from the Perry Point Center and \$1.35 from Ortho; a 71 percent difference.

A tight budget and the higher price of alternative source material forces the service unit to buy only as much as is needed to get by until the Perry Point Center stocks arrive. That sets up a chain reaction that usually forces its costs even higher. First, the amount of material bought depends upon the Service unit's estimate of the receipt date of its backordered Perry Point Center material. If the service unit could predict that date accurately and did not expect material for a long time, it could purchase a larger quantity at greater discounts. The price would normally be higher than that of the Perry Point Center, but it would be the cheapest alternative price possible.

The inaccuracy of the backorder due-in date, however, presents the service unit with a real dilemma. If it does not expect the Perry Point Center material to come for a long time, it should buy a large quantity of the needed material. If it does so, however, and the material arrives from the Center prematurely (or even on time), the service unit will have used very scarce funds to buy material that is not needed.

If, on the other hand, the service unit buys a small quantity to conserve available funds and the material fails to arrive from the Center, costs will also rise. With smaller purchase quantities, discounts are lower. If it has to make a second and perhaps a third buy, the discount will be equally small. Costs are higher not only because of higher material prices but also because of higher labor costs needed to find, buy, and process additional orders.

As an added burden, the service unit is likely to encounter higher transportation costs. If needed items are critical and local stocks are insufficient, the service unit will have to pay for premium transportation to receive material before local stocks are depleted. In Alaska, that problem is most apparent. There, premium transportation from the "lower 48" is a virtual necessity because transit times for routine shipments are several weeks.

Costs to the IHS Supply System

At the IHS supply system level, these costs rapidly multiply when the Perry Point Center is out of stock on a widely demanded item like oral contraceptives. Then each customer in the system is forced to find, buy, and process material from an alternative source.

IHS-wide, the time and cost individual service units spent compensating for the Perry Point Center's low fill rate increase system cost in other ways. The service units increase their inventories as insurance against running out of local stocks in the future and the high cost of acquiring alternative source material. Safety stocks are prevalent and costly. With such inventories, the service units also face higher costs for obsolescence, damage, and theft. Finally, larger inventories force service units – already tight on patient care space – to use more space for storage of those inventories.

One of the worst effects of the low Perry Point Center fill rates is the necessary involvement of medical professionals solving supply problems; they told us they feel that their involvement is necessary to compensate for poor service. Time spent on supply is time not spent with patients, and that affects IHS's ability to provide health care.

RECOMMENDATION: TRANSFER THE PERRY POINT CENTER TO THE IHS

As the Perry Point Center's only large customer, IHS is essentially the reason it exists. IHS should be able to strongly, if not overwhelmingly, influence the way the Center does business. IHS can buy much of its medical material elsewhere at lower cost and with better, more reliable service. Given the performance levels of its own central warehouses in the Oklahoma City, Navajo, and Portland areas, it would seem that IHS could serve itself better if it simply transferred its Perry Point Center business to those facilities. If the Center were to lose IHS sales, 64 percent of its business – more than \$10 million – would disappear. Of the \$5.7 million in sales that remained, only a fourth or \$1.4 million would be to other Department of Health and Human Services (DHHS) organizations (see Figure 2-1).

Should IHS pull out of the Perry Point Center and close it? For several reasons that alternative is neither feasible nor advisable. The Public Health Service would not allow IHS to make that decision unilaterally. Although 64 percent of the Center's business is from IHS, 36 percent or \$5 million is from other customers who would perhaps lose their only source of medical material if the Center closed. For IHS, having the Perry Point Center as part of its supply system has some short-term benefits and possibly some long-term ones. Those benefits, however, can best be understood within the context of our recommendations in Chapter 4 that deal with centralizing IHS supply support. There we address Perry Point Center's future.

The Perry Point Center fails to satisfy IHS's needs because it has not recognized the importance of providing that agency with high-quality, cost-effective medical support. As a PHS Supply Service Center, its primary mission is to support IHS and other PHS customers. It cannot succeed if its prices are higher and its service is slower and less reliable than competing agencies. In spite of the Center's poor service, however, more of HRSA's management attention has been devoted to increasing the number of non-PHS/non-DHHS customers than to improving the service afforded existing, predominantly PHS customers.

Having demonstrated the penalty costs of poor Perry Point Center service and by implication, the need for the Center to improve, the question becomes, "How can that improvement be most effectively realized?" The answer, we believe, is in two parts. First, we recommend that PHS transfer management of the Perry Point Center to IHS. We discuss that recommendation further in this section. Second, we

recommend that IHS take specific actions to improve the methods and the standards by which the Perry Point Center provides customer service. We devote Chapter 3 to a thorough discussion of those actions.

We believe the Perry Point Center will not substantially improve its service as long as it remains part of HRSA. To improve, it needs direction and strong leadership; HRSA is unlikely to provide enough of either. The Center's past performance casts doubt on whether HRSA really understands how to run a medical supply center effectively. Its current austere funding and the Perry Point Center's inability to contribute to HRSA's primary mission make it highly unlikely that that agency will devote sufficient management attention or resources to improving the Center.

On the other hand, we find several good reasons for transferring responsibility for administration and operation of the Perry Point Center to IHS. First, IHS can significantly reduce its supply costs by improving the Perry Point Center's service. Its fill rate, delivery times, quality, and prices all affect IHS supply costs. By improving them, IHS will save money that can be used for reinvestment in health care for Native Americans, the agency's primary mission. An added benefit will accrue in the form of reduced costs to the Perry Point Center's other customers.

Integration of the Perry Point Center into IHS's supply system will also produce significant, positive changes in the way the Center does business and will further reduce customer costs. In the past, the Perry Point Center has made management decisions that reduce its costs without regard to the effect of those decisions on its customer's costs. Changing the way it does business to reduce system rather than internal operating costs will be a radical change for the better.

As an example, consider the Perry Point Center's backorder policy, which we discussed in addressing the cost (of inadequate service) to the service unit. When the Center backorders material, every customer has to find an alternative source of material. System costs for labor, material, transportation, inventory, and facilities increase.

If the Center were to act -- as IHS's central warehouses do -- to find alternative sources for material for its customers, its costs would increase, but IHS's system costs would decrease. Spot buys made by the Center on behalf of the system would be larger than any individual customer buys. That would increase the likelihood of

larger discounts and reduce overall transportation charges. With the Center's personnel finding, buying, and processing material, individual IHS service units would not incur those labor costs. In addition, the Center's procurement professionals would be far more adept at finding alternative sources than are personnel at most service units since Center personnel routinely examine multiple sources when stocking an item. As the Center's reliability improves, service unit inventories can decrease, thereby reducing not only inventory investment costs but also obsolescence, damage, and theft. Thus, the outcome of this change would be higher labor costs for the Perry Point Center but lower costs for its customers.

We believe IHS would provide better technical management than that currently given the Perry Point Center by HRSA. Where IHS has chosen to professionally manage material in the Oklahoma city, Navajo, and Portland areas, that management is as good as we have seen anywhere in PHS. (Alaska represents a particularly challenging distribution environment that has created problems for management. Consequently, we do not use Alaska in our comparisons.) Central warehouses in those areas, for instance, achieve fill rates and processing times well above those of the Perry Point Center (fill rate: 83 percent for the Perry Point Center compared with 98 percent for IHS; processing times: 2 days for IHS compared with 13 days for the Perry Point Center).

In Chapter 5, we recommend that IHS establish a strong, professional supply management division and that part of that division's responsibility be the management of operations at the Perry Point Center. IHS has indicated it will establish that division and empower it with the authority to manage material IHS-wide. We have every confidence that organization will provide the direction and leadership the Perry Point Center needs to improve its service.

Based on IHS's strong incentives and its proven track record of supply management, we conclude that IHS management of the Perry Point Center is most likely to provide what the Perry Point Center needs to improve.

CHAPTER 3

IMPROVE PERRY POINT CENTER'S PERFORMANCE

In Chapter 2, we recommended that PHS transfer administration and operation of the Perry Point Supply Service Center to IHS to provide a management environment that is more conducive to improving service. We found that service is well below the material support levels of comparable organizations, and as a consequence, it has adversely affected IHS and other customer supply support costs.

In this chapter, we recommend that IHS and the Perry Point Center take the following specific actions to improve service:

- Establish new policies to alter the way the Center has traditionally related to its customers
- Modify the IHS supply system to make it easier for customers to get faster, better service from the Perry Point Center
- Create a new management approach for ensuring the Perry Point Center's service improves.¹

Our recommendations are grouped in two parts: one for IHS actions, one for Perry Point Center actions. For IHS, much of what we recommend here is based on the premise that future Perry Point Center actions ought to be determined not by its internal need to reduce costs — although that is important — but rather by the effect of its actions on the overall cost of the IHS supply system. We recommend, for example, IHS have a policy that the Perry Point Center find and then furnish alternative source material to its customers when it is out of stock and more stock is on order from its normal sources. That action will increase the Perry Point Center operating costs. It will also significantly reduce system costs when service units no longer have to find and buy material from alternative sources because of Perry Point Center backorders.

¹The actions we recommend in this chapter to improve service at the Perry Point Center should be taken whether or not our recommendation for transfer of the Center's management is accepted. For convenience we specify that the actions be taken by IHS.

We also recommend actions that the Perry Point Center needs to take to improve its services. The predominant requirement is to focus on customer satisfaction; knowing what customers need by communicating with them frequently and then working diligently to meet identified needs.

ACTIONS IHS

Define Perry Point Role and Responsibilities

IHS needs to clearly define the role and responsibilities of the Perry Point Center in the IHS supply system. With that understanding, the Center will be better able to manage and act in ways that are consistent with IHS's goals for cost reduction.

The Perry Point Center does not clearly understand its role and responsibilities as a PHS Supply Service Center. In recent years, it has increased its sales to non-PHS/non-DHHS organizations, while its service to its existing, predominantly PHS customer base has remained poor. During one of our interviews, HRSA's Material Management Branch Chief, the Perry Point Center's superior, indicated that IHS business had the potential of doubling. In the face of this large, unfulfilled but recognized demand, he nonetheless chose to focus resources and management time on selling to non-PHS organizations as far away as the Pacific Trust Territories.

Several complex reasons, which in part we can only speculate about, explain this behavior. First, over the years, the Center has been concerned that it have enough business to avoid laying off some of its personnel. Evidence strongly indicates that in the early 1980s, the Center was overstaffed and was presumably concerned that it might have to let some people go. From 1982 to 1988, for instance, the Center's sales climbed from approximately \$4 million to nearly \$16 million, a 300 percent increase, while staff increased only 14.7 percent, from 34 to 39 people.

The Center initially paid for those personnel by marking products up in excess of 20 percent and by depending upon its status as a mandatory PHS supply source to ensure sales. As sales increased, the Center's manning excess disappeared. Revenues that increased faster than labor costs allowed smaller markups. Even though excess manning no longer exists, the Perry Point Center and HRSA's Material Management Branch have retained their old reflex of continuing to push sales instead of improving quality.

A second reason for the Center's organizational behavior, particularly in recent years, is its fear of becoming an IHS facility. With a transfer to IHS, it would be subject to "hire Indian" employment restrictions and would also be subject to "buy Indian" restrictions although the impact of the latter is not well understood.

While IHS was part of HRSA, the high percentage of the Center's sales to the IHS was of little concern. Once IHS was elevated to agency status, however, that percentage became a very strong argument for the Center's transfer to IHS. To reduce it, both HRSA and the Perry Point Center reacted by pursuing more business from such Government organizations as the Pacific Trust Territories and by not pursuing additional business from IHS.

A third reason for the Center's behavior, specifically for its poor service quality, has been the fear that increasing quality would increase costs. Cost increases would require higher prices, and they, in turn, would make the Center less competitive. Even though it still enjoys monopoly status as a mandatory source for PHS organizations, the Perry Point Center is aware that an increasing number of its customers have begun to buy from other Government sources that offer lower prices. Higher costs for improved quality, therefore, represent a threat to its current business. Ironically it is the absence of quality that has resulted in customer loss.

Although the Center's parochial behavior in the past may be understandable, it cannot continue in the future if IHS wishes to lower its supply system costs. To change that behavior, IHS needs to provide the Center with a clear statement of organizational purpose. Such a statement should do the following:

- Define the Center's role in the IHS supply system
- Identify its customers
- Specify how and how well customers are to be served
- Describe the products and services that are offered
- Most important, be short enough to be read and followed.

We recommend that IHS adopt the following purpose statement. We encourage the Perry Point Center to adopt it as "its" way of doing business and not simply because IHS imposed it.

As a PHS facility, we exist to satisfy the medical material needs of our customers, primarily those in the Public Health Service. Since the

changing environment in which our customers function affects their needs for service, we must continuously communicate with our customers to define how we can best serve them. Our goal is to meet our customer's needs with the highest quality material and service and at the lowest delivered price possible. It is their costs and their service requirements that will determine our actions, and they will be the ultimate judge of our success.

That purpose statement is important for several reasons. First, it clearly defines the Center's role and responsibilities as a PHS facility. It states that the Perry Point Center is in business primarily to serve the needs of PHS customers. It does not exclude others, but it gives PHS priority. It states that the Center will sell whatever medical material meets the needs of its customers and will provide the very best service and quality as judged by its customers. It is the customer's needs for low-cost, high-quality material and service that define the Center's actions. The Center will know when it succeeds from interactions with customers.

The purpose statement is also important because it will remain current as events and system requirements change. Five or ten years from now, it will still be a yardstick by which the Perry Point Center management can judge how well it is doing and define what it ought to do. Furthermore, the purpose statement is succinct enough to be read and posted. We believe that is very important if it is to serve its function. Lengthy statements are not read and consequently are not used.

Adopting this statement represents a significant change for the Perry Point Center. IHS must manage that change intensely. The Perry Point Center has frequently acted in its own self-interest; if it is to implement this purpose statement, it must act in the customers' interests. Since that may frequently mean higher costs to the Center, IHS will have to work closely with it to ensure that such action has value and is not self-defeating.

Install a Performance Measurement and Management System

The Perry Point Center does not have an effective performance management system for measuring key performance indicators, establishing standards for performance, and holding managers accountable for meeting the performance standards.

The Perry Point Center's current system only partially succeeds. It measures performance in several important areas but not in others (it does not measure transit time, inventory accuracy, or customer satisfaction for example). It does not have standards, and managers are not held accountable.

Instead, the Center relies predominantly on customer complaints to highlight problems that need correction. Intended to fix problems and improve customer service, its reactive style of problem solving creates even more problems. Many smaller Perry Point customers do not complain but rather live with their discontent and compensate for service problems in ways that tend to be costly (higher inventory and its associated costs). Others who do complain do so only after extreme provocation. The Center may then solve their immediate problem, but customer opinions that the Center is unreliable persist. Thus, customer actions to compensate for poor service continue to cost IHS money.

We recommend that IHS install its current supply performance monitoring system at the Perry Point Center and use it to manage the Center's improvement. That system is the best we have seen in DHHS. It measures supply performance in key areas against predefined performance standards. Every month, IHS's supply management staff uses those standards to evaluate the supply performance of each IHS service unit. Those evaluations are provided to them and to the IHS area office under which individual facilities are located.

The IHS should require monthly progress briefings to the Director of the Division of Supply Management (see Chapter 5) by the Director of the Perry Point Center when its performance monitoring system is in place. For each measured area, performance should be compared to a standard and differences should be identified, disparities addressed, and corrective action discussed and agreed upon. To prevent nonrecurring monthly fluctuations from having too great an effect, we recommend briefings include both monthly and year-to-date indicators of performance.

In addition to the measures and standards of performance that the IHS performance monitoring system now contains and which it should use to judge the Center's performance, *we recommend it additionally use the following new measures and standards:*

- *Net fill rate:* Currently, IHS tracks gross fill rate, the number of *completely* filled customer orders divided by total number of customer orders. We recommend that it also track net fill rate to measure the Perry Point Center's effectiveness in finding and providing to customers alternative source material when material is on backorder from normal sources. Net fill is determined by adding the number of orders that the Center fills using alternative sources to the number of completely filled customer orders it makes from stock and then dividing that sum by the total number of

customer orders the Center received. Net fill rate is an important measure for judging the success with which the Center implements IHS's new back-order policy. That success will have a strong influence on IHS supply system costs, most notably by reducing the number of open market and direct issue purchases.

- *In-house processing time:* In-house processing time is a measure of how fast the Perry Point Center receives, picks, packs, and ships a customer order. This measure has a major effect on customer delivery time and IHS inventory levels. We recommend in-house processing time standards be separately established for both high-priority and routine shipments.
- *In-transit time:* The time it takes to transport an order from the Center to the customer's receiving dock is considered the in-transit time. That time also has a strong effect on delivery time and IHS inventories. The Center should track in-transit times using in-transit data cards. Those cards would be attached to each shipment and would show the pertinent information about an order. Customers could annotate the shipment's receipt date and comments about the Center's order quality and mail them back to the Center. The Center would then process those cards to measure transit time by carrier as well as order quality by the Center. *We recommend that transit time standards also be separately established for both high-priority and routine shipments.*
- *Customer satisfaction:* Customer satisfaction is a measure that reflects how well customers think they are served. *We recommend that IHS use in-transit data cards and customer surveys to judge customer satisfaction.*
- *Inventory accuracy:* Inventory accuracy is determined by dividing the actual number of items in stock by the number of items that the computer indicates should be in a location. We recommend an IHS standard of 97 percent for inventory accuracy that is based on monthly samples of inventory. Where samples indicate poor accuracy, sampling frequency should be increased until problem causes are identified and corrected.
- *Number of line items in stock:* An excessive number of line items in stock at a given time is an important contributor to poor fill rates and higher material prices. Too broad a range of stock makes it harder for inventory managers to prevent stock outs and reduces the quantities of individual resale items bought. A reduction in the quantity of an item bought increases the purchase price of individual items because of lower discounts.

Train Perry Point Center Managers and Then Hold Them Accountable

Quantified performance standards should be incorporated into the Performance Management Review Standards of the Perry Point Center management, and monthly briefings should be held to report progress. However, before the Center's managers

can be held accountable, they must be trained. Managers at the Perry Point Center have never been trained in supply procedures. The current director has procurement experience but has never before run a large, multimillion-dollar wholesale pharmaceutical warehouse. In contrast to the dearth of supply management training at the Perry Point Center, DoD and VA have extensive supply training programs for their new managers.

We recommend that Perry Point Center managers be given a combination of formal supply management and intern training. Formal training is available from several sources. The U.S. Army, for example, gives a 2-month course through its Academy of Health Science at Fort Sam Houston, San Antonio, Tex. Although tailored to Army operations, the course is nonetheless excellent training for Perry Point Center supply managers. The VA uses a combination of academic and intern programs to train its supply operations managers.² The GSA also offers several courses in important functional areas like inventory management.

For intern training, we recommend the Center's managers spend several weeks on the job at the IHS's central warehouse in Ada, Okla., a facility we found to be run professionally.

Eliminate Mandatory Sourcing

We recommend that PHS eliminate the Perry Point Supply Service Center as a mandatory source of medical material. As noted in Chapter 2, PHS procurement regulations currently require that all PHS activities buy medical material from the Perry Point Center. We found that those regulations benefitted no one (except Perry Point Center) and actually contributed to the Center's poor support levels. IHS customers who adhere to those regulations spend more money and receive less service than they would have if they bought from other Government depots. Larger IHS customers with procurement staffs trained to find the lowest prices do buy elsewhere and ignore the mandatory source policy, which is not enforced. Where area procurement auditing procedures check to ensure compliance, as in the Navajo area, the use of other medical supply sources frequently requires time-consuming paperwork to justify not spending more money at the Perry Point Center.

²Training contacts for Army courses are Mr. Bruce Mulford at (512) 221-5651 and for VA, Mr. Lee Harper at (202) 233-2247.

At the Perry Point Center, mandatory source regulations have created monopolistic protection, insulated the Center from its customers, and discouraged initiatives to improve service. The original premise of the Center's mandatory status was that such status would increase sales and thus allow the Center to achieve economies of scale. The Center would use the resulting savings to increase quality and improve customer service.

In fact, just the opposite has occurred. As a monopoly, the Perry Point Center has felt its sales were assured. Consequently, it has not felt the need to remain competitive with other Government support agencies such as the VA or DoD nor has it paid enough attention to meeting the needs of its primary PHS customers.

Some critics argue that lax enforcement of the Office of the Assistant Secretary of Health (OASH) regulations have prevented the Center from achieving its original purpose. We disagree. Quality and lower price are not necessarily a consequence of a monopoly's higher sales. The reverse is more likely: quality and lower price produce higher sales. To achieve those sales, the Perry Point Center needs to recognize that it exists to satisfy customer needs — as the customer defines them, not as the Center wishes to provide them.

Elimination of the Center's mandatory status will be a strong incentive for it to focus on meeting its customers' needs and becoming competitive with VA and DoD depots. If it satisfies those needs with high-quality, cost-effective service, customers will return. If it does not, they will take their business elsewhere as some have already done.

Establish a System for Handling High Priority Customer Requirements

The Perry Point Supply Service Center currently has no systematic method for satisfying high-priority customer needs. Unlike the VA, which guarantees customers 24-hour service using its FAST TRACK system, the Perry Point Center expedites priority orders but makes no guarantees about service. Without such a guarantee, particularly when dealing with medical material that may mean the difference between life and death, the Perry Point Center has discouraged IHS customers from using priority orders for important items and has tacitly encouraged them to purchase priority items on the open market from companies that do provide guaranteed service. In addition, the Center does not provide an audit trail showing how well it satisfies the high-priority needs of its customers. Thus, management

cannot readily judge service levels for its customers' most important orders nor can it easily improve those levels.

The VA FAST TRACK system has worked very well. When that system was established, the Department of Veteran Affairs was under a Congressional legislative mandate to reduce open-market purchases of medical material by its hospitals from 40 percent to 20 percent of total material expenditures. The VA designed the FAST TRACK system as a convenient means to satisfy the priority needs of its hospitals at low prices without resorting to more expensive purchases on the open market. Initially available only to VA customers, FAST TRACK is now available to all customers.

We recommend that the Perry Point Center develop and implement a system similar to VA's FAST TRACK system and guarantee 24-hour service. To ensure that level of service, the Center should intensively track every high-priority shipment it processes. Once an order's shipping status is known, the Center should call the customer and report that information.

We recommend further that customers be charged for the costs of this premium service. VA charges its customers 10 percent extra to cover costs of expedited handling and premium transportation. We think similar Perry Point Center charges would be appropriate.

Establish an Electronic Logistics Communications System

We recommend that IHS establish a logistics telecommunications system to electronically transmit orders to the Perry Point Center and other Government depots and to receive order status information from them.

The logistics communications system we recommend would essentially eliminate the time it now takes to get an order to a depot by electronically transmitting it over a telephone line. It would provide customers with status information on their orders within days and give them the capability to modify or cancel any outstanding order.

A logistics communications system can reduce the need for large inventories by giving customers faster, more accurate order information. A system that rapidly indicates a particular item is not in stock at one depot allows sufficient time to order it from another. By contrast, IHS customers today frequently find that material is

not in stock at the Perry Point Center too late to order it from another Government depot; they must then buy the material on the open market. That action increases IHS's material and labor costs since open-market items are more expensive and require additional labor to process. Eventually, customers build inventories to protect against those costs. If the time in which orders typically arrive varies considerably (3 weeks one time, 5 weeks the next), customers also build additional inventories to protect against receipt time variability. Thus, the timely knowledge that an important order is on the way or is not available eliminates the necessity to buy open-market material or to have a larger on-hand safety inventory as insurance against running out.

As an example of the savings that a logistics communications system could produce, consider the following. In 1988, IHS issued medical materials valued at more than \$33 million, or about \$640 thousand a week. IHS data indicated on-hand inventories at IHS facilities amounted to more than \$11 million. That amount of inventory could sustain 17 weeks of issues ($\$11,000,000 \div 640,000$). Thus, every week that inventory can be reduced could save IHS \$640,000 now tied up in inventory.

Current System

Currently, IHS service units use various means to send their orders to the Perry Point Center and other depots. The most common method is the U.S. Postal Service, which takes a week or more to deliver a purchase order from a remote location. Because of that delay, an increasing number of IHS facilities have begun to use FAX which has essentially eliminated the time it used to take to deliver an order. FAX has the added advantage that it can be used with virtually all vendors since most now have that equipment. A disadvantage of a FAX order — one it shares with the mail, however — is that the Perry Point Center must first key enter the FAX order into its computer before it can process, pick, pack, and ship the material. That computer entry requirement increases both processing time and errors, the latter because key entry is a notorious source of data-entry error. Also, there is no automatic means of feedback to customers for backorders, out of stocks, etc.

The PECOS system is used by some IHS facilities but only for ordering from the Perry Point Center. It offers no advantage when ordering from other Government depots. Like FAX, it transmits orders rapidly, but unlike FAX, a PECOS order can

be processed immediately by the Perry Point Center computer; it does not require data entry at the Center. That advantage reduces processing time and improves accuracy. PECOS has no "feedback loop," so customers are not quickly informed when material they have ordered is not in stock.

Finally, the most frequently used method for placing high-priority orders is the telephone. While some ordering systems transmit an order to the Perry Point Center rapidly, only the telephone offers customers rapid return of information on the status of their order.

We recommend that IHS adopt the Federal Standard Requisition and Issue Procedure (FEDSTRIP) and the Defense Automatic Addressing System (DAAS) as its primary means of logistics communications to provide its facilities with rapid supply order transmission and timely receipt of order status information from all Government depots. The FEDSTRIP system has been used for years by DoD, VA, and the GSA and is thoroughly documented in a GSA publication.³ The Perry Point Center has used it to transmit orders to DoD, and with some modification of its computer system, it could begin accepting orders as well. By using FEDSTRIP, IHS facilities would be able to do the following:

- Eliminate order-placement time for orders to Perry Point, VA, GSA, and DoD.
- Eliminate key entry at the Perry Point Center and thus decrease depot processing time and improve data quality.
- Provide rapid electronic order status information to customers that is computer-recognizable and can be incorporated into a future automated IHS order-tracking system.
- Allow users to query, modify, or cancel an order up to the point of shipment.
- Produce the paperwork necessary to document orders and confirm order receipt (a paper purchase order would not need to be prepared).
- Provide the capability for IHS service units to transmit orders to all Government depots and receive status information from them with one phone call. DoD computers would automatically route orders to the proper Government depot as well as gather status from all Government depots handling IHS orders.

³General Services Administration Report OFOG-0008, *FEDSTRIP* Operating Guide, 1989.

- Employ a user-friendly computer dial-up software interface provided free by DAAS to Government customers.

FEDSTRIP has some disadvantages, none of which outweigh its considerable advantages. The Perry Point Center would have to modify its computer system to use FEDSTRIP, but the modifications are neither major nor expensive. The Center already orders from DoD using FEDSTRIP and a microcomputer; it will need a program to translate FEDSTRIP-formatted data moving between its microcomputer and its IBM System 36 so that electronic status can be provided to Perry Point Center customers and be captured by the Center to track its incoming orders from the depots.

A second disadvantage of FEDSTRIP is that users need a microcomputer. In addition to a microcomputer, IHS facilities will also need a computer modem costing approximately \$120 to interface their computers with the telephone line. Microcomputers are becoming quite common in the field. We foresee facilities without a microcomputer continuing to rely on FAX or sending their FEDSTRIP orders to another facility that can transmit them in the interim.

A third disadvantage to FEDSTRIP that some potential users may perceive is its use of cryptic formats and codes. Many IHS supply operations shy away from manually using FEDSTRIP now because of its "user unfriendliness." That unfriendliness does not exist in the automated logistics communications system we recommend. It is true that some familiarization training will be required, but for the most part, the software DoD provides for using FEDSTRIP and interfacing with its DAAS telecommunications system has made FEDSTRIP ordering very user friendly. Known as DAAS Asynchronous Message Entry System (DAMES), that software is distributed free to Government organizations requesting it. IHS may obtain a copy of the software and information on its use by calling the DAAS Office in Dayton, Ohio, at (513) 296-5914. Also, GSA offers training courses on FEDSTRIP and provides an excellent operating guide to its use.⁴

We recommend that in the long term, any automated IHS supply software include the capability to generate FEDSTRIP-coded requisitions, interface with the DAAS system, and provide FEDSTRIP status replies.

⁴Ibid.

Modify Perry Point Center Pricing Policies

We recommend that IHS establish Perry Point Center pricing policies in the following areas:

- Product markups
- Delivered product prices (includes cost of transportation)
- Price stabilization (keep prices from fluctuating)
- Direct shipments from manufacturers.

Such pricing policies will ensure the Center's future actions reduce customer costs. Currently, high markups have created high prices and contributed to poor service. Unlike the stabilized, delivered prices of VA and DoD, the Center's prices fluctuate frequently and do not include the cost of transportation. Thus, customers have difficulty comparing prices, and transportation costs are virtually impossible to control. Fluctuating prices also generate additional customer labor costs to correct obligated prices that are based on prices in the Perry Point Center's published catalog but differ from those billed by the Center. Finally, the Perry Point Center's historical practice of satisfying nearly all customer requirements only from material in its warehouse creates considerably higher prices for big customers whose orders are large enough to qualify for direct shipment from manufacturers.

Product Markups

Markup is the amount by which a product's sale price exceeds its cost. Markups are expressed as a percentage of cost and affect customers in several ways. The most obvious way is that they determine the price a customer must pay for products. The Perry Point Center uses markups to pay for its operating expenses, which by law must be covered by the revenue it receives from the sale of its products.

We recommend IHS tightly manage Perry Point Center markups for two reasons: first, to ensure they are set at a level that reduces *overall* IHS costs and, second to reduce those markups to levels similar to those of the VA and DoD.

High markups by the Perry Point Center (compared to VA and DoD for the same items) have increased IHS system costs. In 1988, those markups generated

nearly \$600,000 revenue, which the Center used in part to expand its service to non-PHS customers. That initiative, in turn, contributed to the poor service the Center gave IHS by diverting the Center's management attention to those other customers.

If the Perry Point Center uses markups properly, it has the potential to reduce total customer costs by funding initiatives that will improve the Center's customer service. By using markups in that way, the Center could substantially decrease IHS costs.

Because the Perry Point Center operates under different rules than the IHS central warehouses, it is important to understand those rules to fully appreciate the advantage markups provide. The Perry Point Center operates as part of the PHS Service and Supply Fund which was established more than a decade ago by Public Law 79-124. That law requires the Center to use its revenues to pay for all its expenses. Those expenses include items such as labor, utilities, rent, travel, consumable supplies, and such discretionary, one-time expenses as computer and warehouse equipment replacements and facility improvements. After expenses are paid, excess revenues remain in the Service and Supply Fund. Unlike appropriated funds, excess revenues do not expire on a fiscal year basis; they are available to fund future initiatives.

The Perry Point Center's use of markups differs from the pricing methods at IHS central warehouses. Those facilities provide material to their customers for the same price they pay for it. Operating expenses for those facilities are paid separately by appropriated funds from area budgets.

The Perry Point Center does not have merely one markup. It applies different markups to different categories of goods and services. In 1988, markups ranged from a low of nothing to a high of 45 percent. Perry Point's average markup for sales to all customers was 18.8 percent. The break-even point, the markup at which sales revenues equal operating costs, occurred at 14.2 percent (Table 3-1). As mentioned, the difference between revenue at the break-even markup and that at the average markup is considered excess revenue and, in 1988, excess revenue totaled nearly \$600,000. From that amount, the Center paid for discretionary expenditures such as inventory increases and facility improvements.

To set markups for the coming year, the Perry Point Center prepares an annual "spending plan" that projects all expected revenues and expenses. The PHS Service

TABLE 3-1

PERRY POINT CENTER MARKUP CALCULATIONS

| | Cost (\$) | Revenues (\$) | Percentage |
|---|--------------|------------------|------------|
| Perry Point sales in 1988 | | 14,854,897 | |
| Cost of goods sold | 12,504,613 | | 18.8 |
| Operating expenses | 1,771,446 | | |
| Total recurring expense (break-even point) | 14,276,059 | | 14.2 |
| Excess revenue | | 578,838 | 4.6 |

and Supply Fund Board approves the plan. In the plan, expenses include both operational and discretionary expenses. An average markup equates revenues and expenses.

A policy to reduce the Center's markups and, therefore, its prices must focus on achieving some combination of increased revenues and decreased expenses. We address actions that the Center should take to increase revenues in a subsequent section of this chapter (*Identify Customer Needs*) in which we discuss how the Center can provide better service and improve its efficiency. IHS's part in this process should be to oversee and approve Perry Point Center's expenses to ensure they are as low as possible and that actions are continuously sought to reduce them further.

We recommend IHS improve the Center's spending plan to effectively exercise control over its expenses. The Center now monitors actual revenue and expenses by comparing them with projected amounts in the plan. The comparison, however, only involves dollar amounts (e.g., planned revenue to actual revenue or planned cost to actual costs), which tend to be unreliable indicators of problems when both revenue and costs vary significantly from original estimates. Operating expenses that are higher than estimated, for instance, may not be a problem if the revenues that fund those expenses are also larger than estimated. What management needs is a means to judge whether higher costs represent a problem.

We recommend IHS implement at Perry Point Center a method that modifies slightly the way the Center already uses the spending plan. Under that modification

the Center would display planned revenues and costs as percentages of planned revenues and actual revenues and display costs as a percentage of actual revenues.

Making revenue the common denominator gives IHS and the Center a means for reliably judging whether higher expenses represent a problem. When sales are up and the Center spends more for its resale goods, IHS will be able to judge whether that expense is too high simply by considering the percentage of those goods to sales. If that percentage remains approximately the same, higher actual expenses for cost of goods sold need not be a concern.

The evaluation of discretionary expenditures requires a different approach. Those expenses provide IHS the means to fund initiatives at the Center that could reduce supply system costs. How appropriate those expenses are, therefore, depends upon an evaluation of their effect on system costs. As an example, we examined the discretionary expenditures the Center made from its 1988 excess revenue. In one case, we found that a significant amount was spent to increase inventory, which the Center used to support greater sales to non-PHS customers. Those sales, as we discussed in Chapter 2, diverted management attention from improving service to existing PHS customers. That, in turn, made existing customer costs for labor, inventory, and facilities higher than necessary.

In a second case, we found the Center spent \$300,000 to upgrade its facilities. While we could not quarrel with the Center's need for renovated facilities, we question how much IHS and other PHS customers will ultimately benefit from that renovation. We noted in Chapter 2, for instance, that in 1988, 73 percent of the Center's sales came from customers located west of the Mississippi. To continue shipping to those customers from Perry Point, Md., after the Center's transfer to IHS when closer IHS facilities are available makes little sense. It makes better sense to relocate a portion of the Perry Point Center's stock in IHS's western warehouses and to serve local IHS customers from those facilities. That move, which would reduce delivery time and IHS supply expenses, is addressed in Chapter 4.

In the second case, we believe that the Center's discretionary expenditures did not contribute to lower IHS costs and should not, therefore, have occurred. Instead, the Center should have reduced its markups (no longer needed to fund the expenses) and offered customers lower prices. That alternative would have produced lower system costs.

IHS must use considerable skill to evaluate future Perry Point Center discretionary expenses. To judge the efficacy of a proposed Center action, for example, the IHS will have to quantify supply system cost savings and weigh them against the expense of any proposed improvement. We discuss that technique in Chapter 5 where we recommend the establishment of a division of supply professionals to manage IHS supply support system-wide.

Earlier in this chapter, we recommended IHS put in place a performance measurement and management system. We recommend that IHS include in that system some means for judging the degree to which the Center meets its annual spending plan. That measurement should be part of the Center's monthly briefing and should be incorporated into the annual management standards for the Center's director.

A final point on markups: The Perry Point Center uses markups to pay expenses just as do the VA, DoD, and commercial pharmaceutical companies. Unlike those organizations, however, the Center does not include the cost of transportation in its markups. That cost is billed directly to customers by the motor carriers. In FY90, VA and DoD markups were both 8 percent and included transportation (VA's markup during our FY88 base year was 6 percent). The Perry Point Center markup for IHS customers was 12 percent and did not include transportation.

Delivered Product Prices

We recommend that IHS establish a policy directing the Perry Point Center to include the cost of transportation in its prices (by "delivered price," we mean the total price including transportation). Currently, the Center selects the mode and the carrier for a customer's order, but the carrier bills the customer directly for the cost of a shipment (actually, the carrier bills the area office rather than the service unit placing an order). The Center claims that practice encourages customers to file claims with the carrier when in-transit damage or loss occurs. We found little evidence to support that claim.

We did find, however, that the Center's use of nondelivered pricing (pricing without transportation) increases IHS material costs and makes transportation costs nearly impossible to manage. We also found that the Perry Point Center was the only Government or non-Government depot that charged its customers for transporting

routine orders. (Most depots do charge their customers for premium transportation on high-priority orders.)

Customers now find it very difficult to make delivered price comparisons. Because of that difficulty, some customers are likely to buy from the Perry Point Center when material would be less expensive from another source. Since the Center's transportation charges vary widely with the mode and the weight of a shipment, they are difficult to estimate accurately. A 50-pound item, for instance, will cost far more per pound to deliver by mail than it will if it is part of a 1,000-pound truck shipment. Another factor that makes delivered price comparisons difficult is the frequent fluctuation of the Center's billed material prices. We address that price instability in the next subsection.

Payment of transportation bills from area office accounts further enhances the likelihood of some IHS customers buying more expensive material. An order for supplies from the Perry Point Center results in two invoices both of which go to the area office. Given the difficulty in determining transportation charges, service units have little incentive to consider those charges when comparing the price of Perry Point Center material with similar material from competing sources. In fact, if the Center's prices to the service unit are less expensive than either VA or DoD's delivered prices, the service unit has even less incentive to consider transportation costs since they will adversely affect their already tight budget. The service units' may find the Center's material prices to be lower than other depots' delivered prices, but the total price to IHS may be higher when transportation is considered.

An IHS policy requiring delivered prices will produce several improvements. First, it will allow the service units to compare the Perry Point Center prices with those of VA and DoD more readily. That comparison will assist customers in finding lowest cost sources and will encourage the Center to find ways to reduce prices to remain competitive when other depots' prices are lower. (Our recommendation to eliminate the Center's monopoly protection can only be successfully implemented in a competitive environment). Currently, the Center has no incentive to manage transportation costs since it is not responsible for them. Customers who pay transportation charges, on the other hand, have no way to reduce the costs since they select neither the shipment mode of their order nor the carrier that delivers it.

Delivered pricing makes transportation one more cost — albeit a large one — that the Center must manage and seek ways to reduce if it is to keep its prices low.

Price Stabilization

We recommend that IHS develop a policy that stabilizes Perry Point Center prices for an entire fiscal year. Currently, the Center's prices — the ones it bills customers — vary with the average price of material received from its sources. As a consequence, service units can only estimate financial obligations based on prices in the Perry Point Center's published catalog and must adjust those estimates later when the Center's bill is received. That process creates additional administrative labor costs for the Center's customers.

As with similar DoD and VA policies, the one we recommend IHS implement would hold the Center's customer prices steady throughout the year even though receipt prices from its sources may change. Such a policy would make the Center's published catalog a reliable source for its prices. It would also make it easier for customers to identify the lowest cost sources and reduce IHS administrative labor costs. After stabilization, customers could obligate the cost of the Perry Point Center order once and not have to make adjustments. Furthermore, the Center will be able to easily evaluate its competitive position. If, as our data indicate, the Center finds its prices are higher, it will find increased pressure to reduce them.

The approach we recommend would require the Center to estimate the expense of price increases for a fiscal year and to include that cost in its spending plan development process. The subsequent markup that equated expenses and revenue would allow it to determine its prices for the year and to publish them in its catalog. Throughout the year, actual expenses for price increases, like all other expenses, would be tracked closely for any variance from plan.

Direct Shipments from Manufacturers

We recommend that IHS establish a policy making direct shipments from manufacturers to customers that quality the preferred method of supply for the Perry Point Center. Such a policy should require two separate Center price structures; one for direct shipments and another for shipments from its warehouse.

The Perry Point Center's current policy is to satisfy customer orders almost exclusively from material stocked in its Maryland warehouse. For larger customers

whose order sizes qualify them for direct manufacturer shipments, that approach results in significantly higher costs, poorer service, and lower quality.

The Center buys more than half of what it stocks from contracts it shares with DoD and the VA. Because of their high sales volumes, those contracts offer substantial savings. Price discounts are large, manufacturers pay transportation charges, and contract material that is shipped must have a minimum of 18 months of remaining shelf life.

One provision of those shared procurement contracts is a specific list of locations to which manufacturers will ship. That list includes the locations of the VA's three central warehouses, DoD's four large central warehouses, and the Perry Point Center, the only PHS facility. That provision is included, particularly for PHS, to ensure contract orders are large enough to be efficiently handled by manufacturers. It is that efficiency which, in part, allows manufacturers to offer large discounts. A study done by IHS's Oklahoma City area central warehouse determined the minimum order size for most manufacturers is \$5,000. Using that conclusion, we found that large Perry Point Center customers were frequently able to place orders of that size.

A direct shipment policy for customers whose orders meet minimums would produce multiple savings. The 12 percent markup the Center now charges IHS for warehousing shared procurement items could be reduced, perhaps below 1 percent, to cover contract administration charges for direct shipments. Since direct shipments require no warehouse or shipment processing, no charge should be assessed for that service. Transportation for those shipments would be paid by manufacturers, saving qualified customers approximately another 2.5 percent (the same percentage we used earlier to compare Perry Point Center and VA prices). Delivery times for direct shipments would be shorter than those from the Center since virtually all manufacturers ship from regional warehouses close to customers in the West. Fill rates would be higher from manufacturers than from the Perry Point Center. Finally, the shelf life of shipments would be a minimum of 18 months, a significant improvement over receipts from the Center that now may have as little as 2 months of remaining life when received by customers. Those receipts would reduce IHS obsolescence and labor costs by decreasing the frequency with which pharmaceuticals have to be replaced by the field.

Transportation Management

We recommend IHS develop and implement a policy requiring the Perry Point Center to manage transportation to the customer's receiving dock. In addition to the Center's current responsibility for selecting a carrier, it would be accountable under the recommended policy for managing carrier delivery times, service, and cost.

Currently, no one is fully responsible for the transportation of orders from the Perry Point Center to its customers. The Center decides both the mode and the carrier for customer shipments but is not responsible for managing the transportation costs those decisions produce. While customers pay those costs, they have no way to manage or control them. Customers frequently complain that delivery times are not very good, but no one has published standards to specify how good they should be. The Center selects a carrier without knowing how well that carrier has performed in the past, and once the carrier departs with a shipment, the Center does not monitor how quickly that shipment is delivered.

To hold the Perry Point Center totally accountable for transportation, IHS must develop a policy that specifies how it will judge the Center's management of transportation costs and it must create in-transit standards to judge delivery times. We addressed the first requirement in our recommendation that the Perry Point Center prices include the cost of transportation. That approach we believe will minimize transportation costs by making them a Center expense that must be managed if the Center is to keep its prices low.

In-transit standards to judge delivery times should specify the time a shipment should take to arrive at a customer's receiving dock. Since that time should be considerably shorter for high-priority orders, separate standards should exist for routine and high-priority items.

We recommend that IHS adopt the delivery time standards of the DoD Uniformed Material Movement Indicator Priority System (UMMIPS) found in the GSA FEDSTRIP Operating Guide.⁵ UMMIPS time frames provide a common, tested standard recognized by GSA, DoD, and VA. They are based on extensive analytical work that counterbalances transportation and inventory costs (faster delivery times reduce the need for inventory and, therefore, its cost). With those standards in place,

⁵Ibid.

Perry Point Center's responsibility will be to select the mode and the carrier that will deliver material within standard time frames and at the least cost.

To select carriers effectively, the Center must measure their performance. The primary method we recommend to IHS is the in-transit data card (IDC). Printed by the computer, that card would be annotated by Center personnel with information about the shipment (pick date, shipment date, carrier, etc.) as an order is processed. Upon receipt of a shipment, customers would annotate the IDC with the date of delivery and comments about order quality. They would then mail it back to the Center for processing into a database for tracking carrier and Center order performance. Any service problems highlighted by customers would be handled more efficiently since the card would include the information needed to investigate problems.

Customers must accurately annotate the IDC for it to be an effective means to judge carrier and Perry Point Center performance. If a customer's receiving dock were backlogged, for instance, a natural reaction would be to set a shipment aside and then annotate the IDC only after material was processed a day or two later. That procedure would produce erroneous performance information. An accurate receipt date is essential since it is to be used by IHS to hold the Perry Point Center accountable for meeting standard delivery times and, in turn, by the Center to evaluate and select future carriers. Policies must be put in place to ensure the IDCs are correctly annotated and returned.

Analysis of carrier performance will require a computer database system at the Perry Point Center to track delivery time and carrier performance. That system should keep information by destination, mode, carrier, and shipment and receipt date to analyze carrier and Perry Point Center delivery performance. Software for that purpose is available now at the Center.

We recommend that the Perry Point Center use performance reports from carriers as a backup to IDCs. Those reports are generated by carriers to track their own performance and most carriers will gladly provide them to customers on request.

Having an effective carrier evaluation system in place is important to the Perry Point Center's future. Loss of its monopoly protection will force it to be more competitive if it wishes to retain its customers. Improved delivery times and reduced

prices from improved transportation management will be two valuable means to compete for customers.

Not-In-Stock Procedures

We recommend that IHS establish a policy requiring the Perry Point Center to find, buy, and provide alternative source material to its customers when it is out of stock on a particular item. Currently, the Perry Point Center tells its customers it is out of stock on an item but takes no further action. Customers must either wait until the Perry Point Center's stock arrives or find acceptable material elsewhere. That approach increases IHS system costs for material, labor, inventory, and facilities. When the Center is out of stock on an item that is required by many customers, costs rise rapidly as each of those customers tries to find the same material elsewhere.

A policy that requires the Center to find and buy material from alternate sources will produce the following significant improvements:

- The Perry Point Center's purchase of such material will solve an out-of-stock problem for all customers needing a particular item. That eliminates the labor cost that each customer must expend to find the material. For items such as insulin that are in high demand by many customers, that represents a significant system savings.
- The Perry Point Center will more quickly and efficiently find and buy alternative source material. Its trained procurement personnel are paid to know which companies carry various products. By contrast, a less experienced supply clerk at a remote service unit has little if any experience with alternative sources.
- The Perry Point Center will get the best price for material from alternative sources. It knows when to expect to receive material from its sources, it has access to past demand data, and it knows current unfulfilled system demands. With that information, it can more accurately project expected system needs until material arrives from its normal source. It can also negotiate the largest discount since it would be buying a significant volume.
- The Perry Point Center will be able to receive and process orders from alternative sources less expensively than its customers could because of the order volumes it would be dealing with. To a large degree the cost of processing an order (purchasing, receiving, auditing, and invoice paying) is the same irrespective of the size of the order. The Perry Point Center's larger orders, therefore, would produce lower per unit administrative processing costs.

- The Center's actions will shield customers from many of their present out-of-stock problems. Currently, customer reactions to those problems are expensive accumulations of safety inventory as insurance against running out. By exposing its customers to fewer not-in-stock situations, customer confidence will rise and customer inventories should fall.
- The new policy will help focus the Perry Point Center's attention on its customers' needs. A policy that holds the Perry Point Center responsible for correcting its own out-of-stock problems places a dollar penalty on not doing business as well as it should; out-of-stock actions are an expense the Center must manage and reduce if it is to keep its prices competitively low.

IHS should hold Perry Point accountable to the same stock availability standards as other IHS central warehouses hold themselves. At Ada, Okla., and Gallup, N. Mex., for instance, customers are guaranteed that out-of-stock material will be furnished within 7 days and that it will cost them nothing extra. As an incentive for prompt action, those warehouses are allowed to claim credit in their fill rate performance measures for out-of-stock actions they are able to correct.

We recommend that policy be modified slightly. The Perry Point Center and other IHS warehouses should report both gross and net fill rates; gross, to measure fill rate without corrections for out-of-stock actions; and net to measure it with corrections. Both IHS and the Center need those measures. IHS needs them to judge how well the Center is doing, and the Center needs them both to measure its success finding alternative source material and to measure how well it avoids expensive out-of-stock situations altogether.

PERRY POINT CENTER ACTIONS

The Perry Point Supply Service Center must improve its service and increase its revenues, and to do so, it must make a number of changes. First and foremost, the Center must adopt a new customer focus — one that differs significantly from the focus it has had in the past. The Center must recognize that it is better to serve a few customers well than many poorly and that interaction with customers is essential to improved performance.

The new focus of the Perry Point Center must be one that recognizes PHS customers and, specifically, IHS customers as its primary customers. They are the reason it exists, and they must be served well before new customers are added. The new focus should acknowledge that customers are the final judge of service quality

and cost effectiveness. If they do not think service is very good, then it is not very good – regardless of how the Center might feel. Finally, the Center must believe that the only way to really know what customers need and to judge the quality of service rendered is to ask them – frequently and continuously.

As we have mentioned previously, the Perry Point Center has sought to minimize its own costs before worrying about those of its customers. IHS must strongly discourage that approach. The Center can be far more productive in performing many of the services now performed by individual service unit supply operations. As we have shown, the Center can provide transportation and not-in-stock corrections more readily than individual customers can – and we recommend that it do so. To absorb those added responsibilities, IHS and the Center must work to reduce the Center's expenses so that they do not result in higher prices and costs to IHS.

The remainder of this section describes three actions we recommend the Perry Point Center take to improve service and decrease costs:

- Identify customer needs
- Satisfy customer needs
- Reduce operating costs.

Identify Customer Needs

We recommend the Perry Point Center undertake an effort to improve communication with its customers and institutionalize that effort. The goal of the effort should be to identify customer needs and evaluate its own success in meeting those needs.

The Center is badly out of touch with its customers. Currently, it has little communication with them. While it publishes a newsletter, it does so infrequently. Its managers seldom meet with customers and make little effort to identify the needs of those customers. Complaints from customers are the most frequently used means for evaluating customer service. The Center's isolation has resulted in higher customer costs.

We recommend the Perry Point Center do the following to improve its communication with customers and to identify customer needs:

- Operate the customer service center through the close of business hours on the West Coast
- Establish a system to track customer problems and record feedback
- Provide an unconditional guarantee of satisfaction
- Publish a monthly newsletter
- Travel to and conduct face-to-face meetings with customers
- Ask for customer feedback continuously.

Operate Customer Service Longer

The first step toward improving the Center's customer communication is to make it easier for customers to solve their problems. We recommend the Center staff its customer service telephones so that all customers from the East Coast to California and Portland have 8 working hours in which to call Perry Point Center and resolve problems. With the Center's current hours, the majority of its customers located in the West have only about 4 hours to communicate with the Center once they uncover a problem. To accommodate those customers, customer-service telephones at the Center should be tended from 8 a.m. until 7:30 p.m. Eastern time. While those hours will not be totally acceptable to Alaskan customers, they will give them an additional 3 hours to resolve their problems.

Establish a System to Track Customer Problems

We recommend that the Perry Point Center establish a microcomputer database system to track the resolution of customer problems, to record customer feedback, and to identify any systemic causes of problems. With such a system, management could assign priorities to problems and track their resolution to ensure timely response. The system could also categorize the types of problems handled and reasons for those problems so that the Center can isolate and eliminate root causes. The Center has the software needed to establish that database; it should take less than a day to create.

Establish an Unconditional Satisfaction Guaranteed Policy

As an important method for improving customer feedback on service, we recommend the Perry Point Center unconditionally guarantee its service. To work, such a policy must be "hassle free"; that is, customers must never be challenged. If the customer perceives a problem, the Center must solve it to the customer's – not the Center's – satisfaction.

An unconditional guarantee of satisfaction would be an important sign to the Center's customers that it is serious about serving them. Many commercial companies have found that such a policy provides an invaluable source of feedback with which to identify and eliminate service problem causes. They have found, however, that the feedback system is effective only when customers realize that their complaints will not be challenged. If challenged, customers are put on the defensive and that rapidly stifles a valuable flow of information.

As it implements its new customer focus, the Perry Point Center must recognize that its customers will not instantly respond, and it should not become discouraged. Initial efforts to determine customer needs may be difficult and frustrating since the Perry Point Center now has a bad reputation in the field. Customers may not believe it is worth their effort to provide feedback and will have to be convinced that the unconditional guarantee and the "hassle-free" policy are real and the Center is serious about improving service.

Publish a Newsletter

The Perry Point Center should have a routine method for imparting information to customers and asking for feedback from them. We recommend a monthly newsletter to replace the one that it now publishes only occasionally. Consistent publication is important so that customers expect the newsletter and count on it. Each newsletter should contain the following routine news:

- New stock item additions
- Deletions of old items
- Center delivery problems
- New services
- Monthly Perry Point Center performance indicators.

Every newsletter should also have a customer survey form that asks for service feedback and a personal request from the Perry Point Center's director that customers call when they have problems.

Meet Customers Face-to-Face

We recommend both managers and staff members of the Perry Point Center visit customers to identify their problems and to evaluate first hand the service they receive. The Perry Point Center management needs to appreciate how customers must cope with poor service. Both management and the Center's staff need to establish relationships with customers to better understand their needs.

Face-to-face meetings are important. During our extensive field visits in conducting this study, we were repeatedly told of problems and needs we had not anticipated. We also found customers to be very appreciative that someone had finally taken the time to ask about their needs.

Initially, we think the Perry Point Center should hold meetings every month with customer groups in an area. Since IHS alone has 12 operational areas, it will take a year to visit them. Later, meetings can be cut back to a quarterly schedule as is done by DoD and VA customer service representatives.

Customer meetings should have two goals. First, they should be used to get feedback on customer service, problems, and needs. Second, they should be used as a forum for training and educating customers. The Center could minimize much customer frustration and unhappiness by better informing customers about ordering methods, return policies and procedures, products offered, and service quality (how well it is performing). As the Center takes on new responsibilities, it should also include those in its customer meetings.

Ask for Customer Feedback Continuously

Successful service organizations have multiple methods of seeking customer feedback. In addition to the methods we have already recommended, the Center should use two additional approaches.

First, the in-transit data card, which we discussed earlier in this chapter (in *Transportation Management*), should serve the dual purpose of being a customer service questionnaire as well as a tool to evaluate delivery service. To encourage

customers to fill out and return the data form, the Center should include some means for postage-paid return.

Second, every manager at the Perry Point Center should make at least one telephone call a day to a customer to ask how the Center is doing and how it could improve. The importance of those calls is not only as an information-generating mechanism to improve service but also as a signal to employees and customers alike that the Center is serious about service.

Satisfy Customer Needs

In this section, we recommend actions that the Perry Point Center should take to satisfy customer needs that we identified during our field visits.

Improve Fill Rates

The Perry Point Center must improve its fill rate because of the effect its current poor rate has on customer material costs. At 83 percent, the Center's fill rate is a major concern to its customers who are 3.5 times more likely to encounter an out-of-stock situation (with all its higher cost ramifications) at the Perry Point Center than they are from any other comparable Government depot. The Perry Point Center's fill rate should be in the 93–97 percentile range as are the fill rates of comparable organizations.

To achieve fill rates that meet that level, the Center should take the following actions:

- Reduce the number of line-items stocked
- Suspend the addition of new non-PHS customers temporarily or, as a last resort, reduce the number of non-PHS customers.

Reduce the Number of Line-Items Stocked. With too many line items in stock, inventory managers have trouble focusing on important items. Bloated inventory also tends to increase the cost of goods sold by reducing the quantities of individual line items that may be bought due to storage space constraints.

We found strong evidence that the Perry Point Center stocks an excessive number of line items. Table 3-2 compares the number of line-items stocked by the Center with those stocked by the VA and the IHS central warehouse in Ada, Okla. With 3,700 line items, the Perry Point Center carried almost twice as many items as

the VA or IHS in 1988. More telling, however, is the fact that the number of Center issues per line item is only one-sixth that of the VA and half that of IHS.

TABLE 3-2
DEPOT LINE-ITEM PERFORMANCE IN 1988

| | Perry Point Center | VA | IHS warehouse |
|------------------|--------------------|-------|---------------|
| Line items | 3,700 ^a | 1,900 | 1,600 |
| Issues/line item | 30.1 | 199.8 | 75.4 |

^aExcludes line items for which duplicate locations exist.

We also found evidence that inventory managers are overtaxed when we examined the Center's demand records. As shown in Table 3-3, 14.7 percent of Perry Point Center's stock had previous and recent customer demands although nothing was in stock to satisfy future demands (material was on order, however). Seven percent of the Center's stock had demand, but nothing was in stock and nothing was on order; clear symptoms of further fill rate problems. We believe inventory managers with fewer items to manage would have fewer out-of-stock items and of those, far more would be on order.

TABLE 3-3
PERRY POINT CENTER LINE ITEMS WITH DEMAND IN FY88 AND NO STOCK ON HAND

| Number of demands | Quantity on hand | Backordered | Number of line items | Percentage of total line items |
|-------------------|------------------|-------------|----------------------|--------------------------------|
| >0 | None | Yes | 476 | 14.7 |
| > 0 | None | No | 227 | 7.0 |
| > 5 | None | No | 169 | 5.2 |
| > 10 | None | No | 157 | 4.8 |

We believe that the Center's stock can be trimmed without harmful effect. Table 3-4 illustrates that 15.2 percent of items on-hand at year-end had no demand

for more than a year. A few items were still in stock even though they had no demand for more than 6 years.

TABLE 3-4

PERRY POINT CENTER LINE ITEMS WITH DEMAND IN FY88 AND NO STOCK ON HAND

| Number of items | Last sale occurred prior to January 1 | Percent of total items ^a | Number of items with zero stock on hand | Items with stock as a percentage of total items ^a |
|-----------------|---------------------------------------|-------------------------------------|---|--|
| 562 | 1988 | 15.2 | 322 | 8.7 |
| 228 | 1987 | 6.2 | 77 | 2.1 |
| 111 | 1986 | 3.0 | 40 | 1.1 |
| 82 | 1985 | 2.2 | 29 | 0.8 |
| 51 | 1984 | 1.4 | 22 | 0.6 |
| 24 | 1983 | 0.6 | 12 | 0.3 |
| 18 | 1982 | 0.5 | 8 | 0.2 |

^aNet line items (less duplicate locations): 3 697.

IHS's own experience provides a vivid example of how reducing line items will have a positive effect on service. Prior to the formation of its central warehouses in Ada and Gallup, IHS facilities in the Oklahoma City and Navajo areas collectively carried more than 6,000 different line items. Fill rates were in the 70 percentile range. After centralization and a concerted management effort, line items dropped to the current levels below 2,000 and fill rates rose above 98 percent.

The Perry Point Center should employ the following methods to reduce the number of line items it stocks:

- Purge dead stock
- Reduce multiple quantities of the same item
- Consolidate therapeutically equivalent pharmaceuticals
- Eliminate stockage of low-demand items.

Items without demand for a year should be marked down for sale and eliminated unless mitigating circumstances exist. By eliminating the 562 stocked

items with no demand in 1988, the Perry Point Center can reduce the number of items it stocks by 15.2 percent.

We were unable to determine how many similar, but nonstandard items were stocked at the Perry Point Center. IHS and VA experience, however, both indicate that reducing such stock is important. As an example, the VA found it had 56 different types of specimen cups when it examined its stock. It eventually reduced that number to 6. While standardization is normally viewed as difficult and time consuming, standardization of that type meets with little resistance because it does not threaten a medical professional's use of preferred items.

In the process of reducing the number of items stocked, the Perry Point Center should also reduce the number of therapeutically equivalent pharmaceuticals it carries. Health professionals are particularly sensitive to this means of standardization because it threatens their use of preferred pharmaceuticals. In its central warehouses, IHS found this action reduced the number of line items to be stocked significantly. It also found the reduction took several years and required close cooperation with the medical staff. Reductions came slowly because of the need to obtain consensus among health care professionals in deciding which pharmaceuticals to stock. Without consensus, preferred but eliminated items would still have been used but they would have been purchased by service units on the open market at costs higher than those previously offered by the central warehouse.

The number of stocked items can be reduced further by eliminating those items for which the Perry Point Center has very low demand. Such items either remain in stock after initial demand has dwindled or are stocked because the Center has no effective policy to limit the addition of new stock items. When reducing those items, the Center must make some hard decisions. If an item has even a limited demand, a customer or customers may be upset if it is eliminated. We suggest the Perry Point Center consider the availability of therapeutic equivalents and the criticality of an item as two criteria in its removal decisions. For the future, we recommend that IHS define a policy governing the addition of new items to the Perry Point Center's stock. Such a policy might specify dropping an old item before adding a new one.

Consider Non-PHS Customers. The Perry Point Center should solve its service problems before it considers adding more non-PHS customers. We believe that it is inappropriate to add customers when service to its primary PHS customers is

unsatisfactory. New customers place more demands on the Center's staff and impede its efforts to correct existing service problems.

It is conceivable, although not probable, that the Center might have to drop some or all of its non-PHS customers if it cannot improve its service by suspending the addition of new non-PHS customers. We do not recommend that course of action since it would significantly reduce revenue and would make covering operating costs more difficult. It would be particularly unwise to drop customers until the IHS supply system has gained its own momentum and alternative ways of satisfying those customers' needs have been evaluated.

Improve Turn-Around Time

Perry Point Center customers also need shorter delivery times. We have already noted how slow delivery times increase IHS inventories. IHS can reduce those inventories — as well as associated labor, facility, and shrinkage (loss, damage, theft, and obsolescence) costs — if the Perry Point Center can reduce its delivery times. We recommend that the Center take three initiatives to improve turn-around time: (1) create and use an electronic logistics communications system for rapid ordering and reduced order entry time, (2) streamline in-house processing time, and (3) improve transportation management. We addressed the first and third initiatives earlier in this chapter in the section on IHS actions.

To reduce in-house processing time, which now averages 13 days for each order, the Center must streamline operations significantly. Currently, its processing time is 8 days longer than that of comparable depots such as the VA. Because it is located further from its customers than the VA, making overall delivery time longer, the Center must, in fact, reduce its in-house processing times even below the VA's 5-day time if it wishes to offer comparable service. We believe this to be practicable.

To reduce its processing time, Perry Point Center must streamline its in-house processes for receiving, issuing, and shipping customer orders. Each element of those processes must be examined in minute detail. Steps must be eliminated where they do not add value, or consolidated or shortened where they are needed.

Set-up Shelf-life Management and Return

The Perry Point Center should establish a program that effectively manages shelf-life items in stock. Its current program depends upon its warehouse personnel

checking material and not shipping any that has less than 6 months of remaining life. Customers complain, however, that Perry Point Center shipments arrive with as little as 2 months life remaining. That generates higher customer obsolescence costs and higher labor expenses for replacement actions.

In addition, the Center does not accept customer returns although the shared procurement contracts under which it buys much of its stock allow it to return obsolescent material for credit. By not providing the same service to its customers, the Center gives them little choice but to dispose of out-of-date material and to order more.

We recommend that the Perry Point Center take the following actions to improve the quality of its shelf-life program:

- Ensure manufacturers' compliance with shelf-life minimums
- Manage shelf-life items intensively
- Establish a goal of not shipping any material unless its remaining shelf life exceeds 12 months
- Establish a program for customers to return expired shelf-life items.

Verify Manufacturers' Compliance with Contractual Shelf-Life Minimums. Shared procurement contract shipments must have a minimum of 18 months of remaining life when shipped. The Perry Point Center should ensure those minimums are met.

Manage Shelf-Life Items Intensively. Shelf-life material in the Perry Point Center warehouse must be managed so that the oldest material is issued first, expiring material is identified for special attention, and expired items are removed for return to and credit from the vendor. To accomplish those actions, the Perry Point Center should segregate shelf-life material into one section of the warehouse. Each item should be separated again by expiration date, which could be identified with a color-coded shelf label. As an example, all items expiring in January could have a blue label; those in February, yellow; in March, green, etc. That colored tag scheme would make the oldest material easily recognizable. Thus, expiring and expired material could be identified easily. Expiring material might be marked down and advertised for clearance in Perry Point Center's monthly newsletter. Expired material would be moved to another area and processed for return to the

manufacturer (its removal would preclude a mistaken issue). To ensure the Center's shelf-life program operates smoothly, one person should be made responsible for it.

Establish Goals for Shipping Shelf-Life Items. If shared procurement contract receipts arrive with a minimum shelf life of 18 months, the Perry Point Center can reasonably be expected to ship them to customers with a minimum shelf life of 12 months remaining.

To achieve that goal, however, the Perry Point Center must manage its shelf-life inventory better. On-hand inventory levels should be set so that no more than 3 months of stock is on hand at any time. In addition, it must issue its oldest stock first. The color-coding scheme we recommend will facilitate the identification of the oldest on-hand stock and eliminate problems in picking newer material.

Establish a Program for Customer Returns. We recommend IHS consider establishing a policy that the Perry Point Center will act as the central IHS point for customer returns for credit. While we did not evaluate the savings and the costs of such a program, we found that several central IHS warehouses accepted returns from their customers and gave them credit. Those warehouses, in turn, successfully received credit from their sources because of their sizable volume of purchases from those sources. We believe the Center has the same opportunity to save money for its customers by offering its customers credit for returns.

Reduce Operating Costs

Earlier in this chapter, in our discussion of IHS actions, we described the Perry Point Center pricing policy. The ability of the Center to control and reduce its costs enables it to reduce prices.

The Perry Point Center should focus on labor cost reductions since they now constitute the majority of its costs. Implementation of our recommendations, however, will add costs (transportation, refunds, price increases, etc.) that the Perry Point Center must also control and reduce.

To avoid higher prices or at least to ensure minimal price increases, we recommend several cost reduction initiatives. The first, intensive use of a spending plan, we have already mentioned. We recommended that such a plan display all costs both as percentages of sales and as actual dollar amounts.

Second, the Center should establish cost reduction goals and state those goals as a percentage of Center sales. As an example, consider transportation expense. Once the Center begins to measure such expenses, if they turn out to be 4 percent of sales, a goal could be set to reduce them to 3.5 percent, then to 3 percent. The advantage of stating expenses in that manner is that it relates them to sales when both costs and sales vary. Using sales as the common denominator is reasonable since it is sales revenue that pays for expenses.

The third initiative we recommend for the Center is the establishment of performance standards for all its employees as a way of reducing labor costs. Currently, employees do not know how much they produce or should produce each hour. In the absence of that data, neither employees nor management can readily judge the success of improvement initiatives.

The fourth and final initiative is that the Perry Point Center implement a surcharge or minimum order charge on small orders. Figure 3-1 displays the average Perry Point Center order for each of its 15 different customer groups. Ten of the groups failed to meet the average order size of \$515. Because much of the cost of processing an order remains the same irrespective of an order's size, it costs more per dollar of sale to satisfy small orders than large ones. In effect, large customers are underwriting the costs of selling to small ones. When the VA experienced similar costs, it applied a 3.5 percent surcharge to all other Government agency orders. We recommend the Perry Point Center also apply such a surcharge.

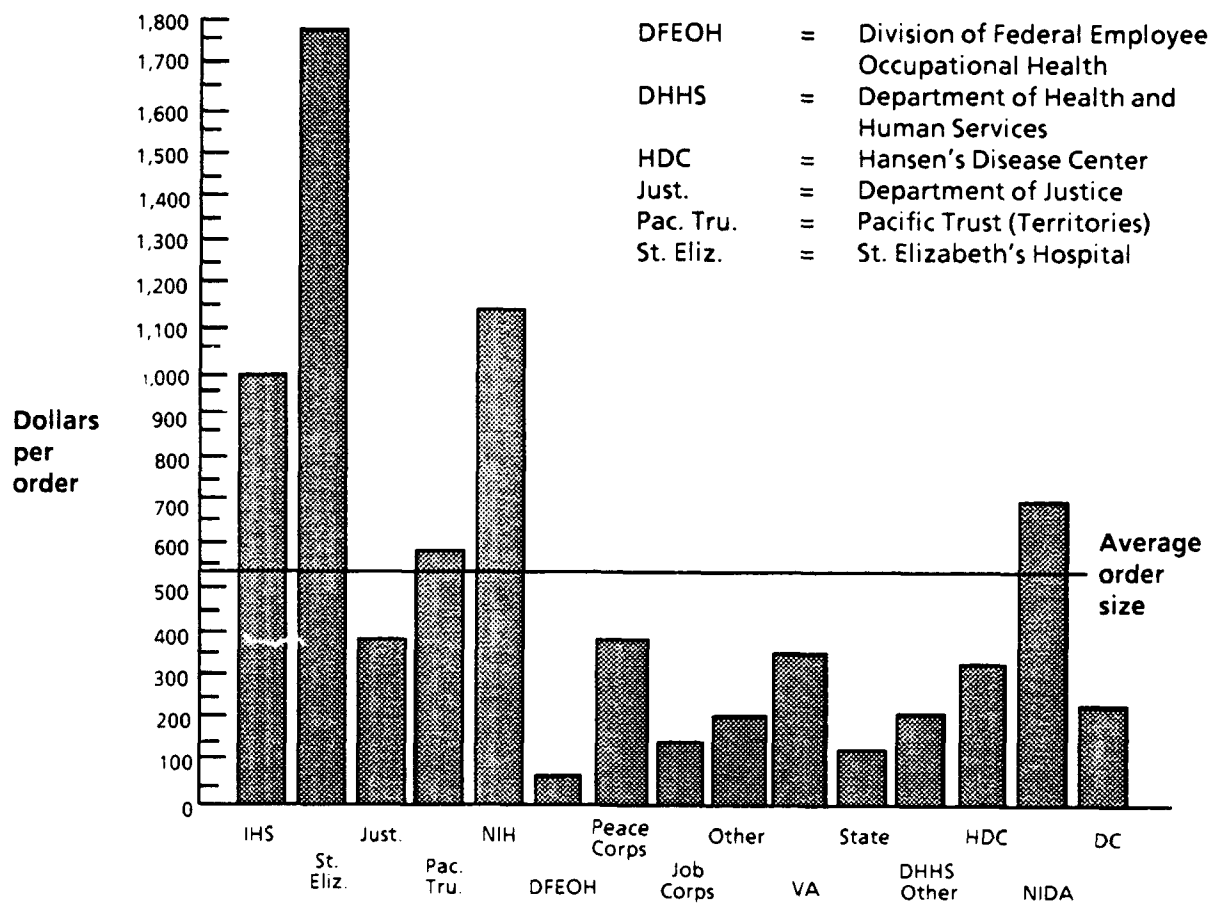


FIG. 3-1 AVERAGE ORDER SIZE FOR PERRY POINT CUSTOMERS

CHAPTER 4

CENTRALIZE IHS SUPPLY SUPPORT

OVERVIEW

We refer to the methods by which IHS satisfies its material needs as the "IHS Supply Support System," but in reality, IHS has no agency system to provide high-quality, responsive, low-cost support. As an agency, IHS neither manages nor coordinates its supply functions. A small headquarters staff is located in Albuquerque to evaluate the monthly supply performance of each service unit. That evaluation is provided to area directors, but they feel no external pressure to correct poor performance and the Headquarters staff has no authority to direct it. Each area is on its own to select the best means to meet its supply needs within budget constraints.

Among the 12 geographic areas, a considerable difference is apparent in the quality and the cost of supply support. In eight areas, supply support is highly decentralized and each service unit — however small — provides its own support as best it can. In four areas (Alaska, Navajo, Oklahoma City, and Portland), support is centralized within the area; a single warehouse supplies all service units in that area. In some cases, the staff of the warehouse also provides technical guidance and training for area supply personnel.

Data we present here clearly demonstrate that central warehouses provide significantly better, less expensive support to their service units than decentralized service unit supply operations are able to provide themselves. Because of their greater size, central warehouses are able to employ trained, full-time supply personnel; take advantage of area-level economies of scale; and use an area's full buying power.

Despite centralization's effectiveness, eight IHS areas still remain decentralized for three reasons. First, the start-up costs for area centralization are beyond the available resources of many areas. If central warehouses in the Navajo and Oklahoma City areas had been started today, each would require as much as \$1 million of start-up capital for facilities, full-time equivalents (FTEs), computers,

material handling equipment, and storage racks. With IHS funds becoming tighter, it is unlikely that any but the largest decentralized areas would have the funds to contemplate starting a warehouse.

Second, several areas spend relatively small amounts for medical supplies. The high cost of starting a warehouse can be justified only if it is offset by significant savings. To achieve those savings, however, requires economies of scale that some areas could not achieve.

Finally, neither IHS headquarters nor the decentralized area directors appreciate the real cost of poor supply support. Financial systems highlight how much areas spend on supplies, but they do not track other related costs of inefficient support. Bloated inventories, medical facility space used to store inventory rather than to treat patients, obsolescence, damage, theft, transportation, and exorbitant purchase prices are all hidden costs to IHS and are the result of IHS's current, inefficient supply system.

Even worse is the loss of professional time spent compensating for poor supply support, a significant cost of IHS's inefficient supply system. During our field visits, we talked to doctors, nurses, and pharmacists who were unhappy with the time they spent working supply matters when their supply support system failed to furnish what they needed. That effort added to their administrative burden and reduced the time they could spend on patient care. Those we spoke to told us excessive administrative responsibilities had contributed to the decision of some of their predecessors to leave the service.

In Chapter 1, we estimated IHS's total Medical Material supply costs to be approximately \$82 million a year. In this chapter, we show that IHS could save a significant portion of that amount, perhaps as much as \$13 million, but to do so, it must manage its supply support from an agency-wide perspective. Without that management, the agency cannot achieve maximum savings, service improvement, or equitable support for all of its service units.

Several courses of action are available to IHS. Each assumes the agency will take control of the Perry Point Supply Service Center and then improve it. First, IHS could focus only on improving the Perry Point Center and leave the IHS supply system otherwise untouched. That approach would improve the agency's supply support and reduce its costs by improving the service the Perry Point Center now

provides its customers. Perry Point, however, only contributes 15 percent of IHS's support. That course of action would not correct the support inequities in the current IHS supply system, nor would it produce the substantial savings that are possible in a system as large as that of IHS.

As an alternative, IHS headquarters could fund warehouses in some or all of the eight areas in which none exists. That approach offers the advantages of central warehousing, addresses the problems of insufficient area start-up capital, and improves the supply support costs and service of the areas that would gain central warehouses.

Notwithstanding those advantages, funding warehouses in all eight areas would be very expensive and not particularly effective. Supply support in each area would benefit but it would require millions of dollars to achieve. At best only a few areas with large supply expenditures (Phoenix and Aberdeen), for example, could justify their own warehouses. In those areas, central warehouse economies of scale and focused area buying power would produce significant savings. Even then it would take years before new central warehouses would be fully functional if the experiences of the Navajo and Oklahoma City areas are reliable indicators. The Oklahoma City central warehouse, for instance, began operations in 1979 but took until 1986 before it had a smoothly running operation.

Funding central warehouses only in some areas would improve the average IHS support levels, but significant inequities in supply support would still exist throughout IHS. Large areas with central warehouses would still pay for their supply support at a lower rate than would small areas that remained decentralized.

A third approach — the one we recommend — has far more potential than either of the other two approaches. In our recommended approach, IHS would centralize the supply support of all its health facilities from a warehouse network composed of just a few central warehouses. Similar to the distribution networks of VA, DoD, and large commercial companies, that network would support all IHS service units from its closest warehouse.

Such a network would offer many benefits. Customer proximity to network warehouses would reduce delivery times, times that are often several weeks from the Perry Point Center. The increased volumes of network warehouses would produce agency-wide economies of scale. If the number of warehouses was small enough, all

would be able to purchase the bulk of their material directly from manufacturers instead of from the Perry Point Center (we see Perry Point Center as a network warehouse initially but we recommend the support of service units in the West eventually move to warehouses in the West). That would significantly reduce costs, improve service, and most importantly, eliminate support inequities. Even the smallest decentralized IHS service unit would get the same high-quality, cost-effective support as centralized facilities now receive.

ORGANIZATION OF THIS CHAPTER

This chapter has two parts. Part one recommends that all IHS service units should receive support from central warehouses. To support our argument, we compare the supply performance of areas without central warehouses with that of Portland, Navajo, and Oklahoma City, and we estimate the cost savings from expanding the use of central warehouses. With supply expenditures of service units in decentralized areas accounting for 46 percent of IHS supply expenditures (Figure 4-1), we believe that those savings will be dramatic. Our comparison excludes the Alaska area, which, although it has a centralized warehouse, has unique and difficult logistics conditions. We felt that the inclusion of the Alaska area would produce an underestimation of actual savings IHS could reasonably expect to attain.

Part two argues that IHS should support all of its service units initially with a network comprising its three existing central warehouses and the Perry Point Center. Our analysis indicates that a network of central warehouses in Ada, Okla.;

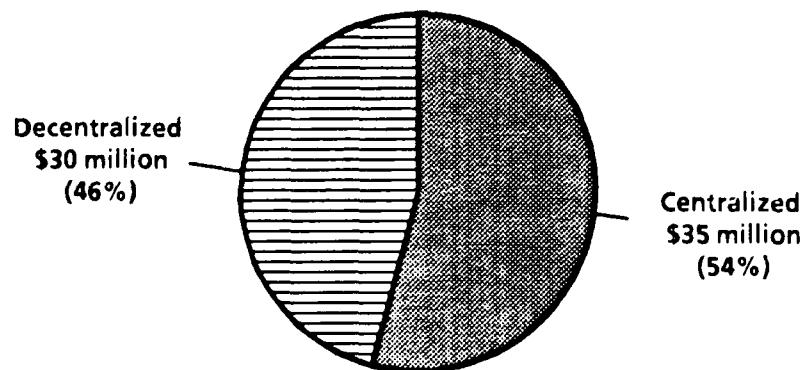


FIG. 4-1. IHS MATERIAL EXPENDITURES, CENTRALIZED VERSUS DECENTRALIZED

Gallup, N. Mex; Portland, Oreg.; and Perry Point, Md., would produce benefits that those facilities could not attain operating on their own. Significant savings, for instance, are possible by ordering material directly from manufacturers (as opposed to the current practice of shipments through the Perry Point Center). Those savings, however, depend upon warehouses placing large enough orders to meet manufacturers' minimum order requirements. Currently only Ada and Gallup *might* be able to generate such orders. A warehouse network of IHS's three central warehouses that supported all IHS would increase the volumes of business of each warehouse, making it likely that all three could meet manufacturer's minimum order sizes.

Our discussion of the warehouse network IHS should use considers its composition, management, facilities, staffing, and funding. We also address the Perry Point Center as a part of that network in the short and long term, and we recommend both its physical and organizational placement. In Chapter 6 we provide an implementation schedule for the warehouse network and the improved IHS supply system.

ECONOMIC AND SERVICE BENEFITS OF CENTRALIZED SUPPLY SUPPORT

We used data from several sources to estimate the benefits of centralized supply support. Those sources include a March 1988 OASH report on IHS small purchasing and supply management, information from other Government and health industry initiatives in supply management, and IHS's own supply statistics.¹

Office of the Assistant Secretary of Health Report

In March 1988, an OASH report compared the supply support of IHS areas that have central warehouses with that of areas with decentralized supply systems.² It found that centralized support achieved the following:

- Higher fill rates
- Greater compliance with Government procurement regulations
- Lower material prices

¹Deputy Assistant Secretary for Health Operations and Director, Office of Management. *Final Report on Small Purchasing and Supply Management Activities of the Indian Health Service*. 22 March 1988.

²*Ibid.*

- Reduced inventory costs from standardization and excess stock elimination.

As a result, the report recommended IHS establish additional centralized warehouses.

Other Government and Health Industry Initiatives

Both the VA and DoD have centralized their supply support systems. The VA has three warehouses; one on the East Coast, one on the West Coast, and one in the Midwest. DoD has positioned its warehouses similarly. When a customer orders from either organization, the order is shipped from the warehouse closest to the customer. By so doing, the VA and DoD minimize delivery time and transportation costs.

The VA and DoD also save on the cost of material they order from manufacturers. Because of the high operating volumes of each of their warehouses, material is shipped directly from manufacturers to those warehouses in large quantities at substantial discounts and with no transportation cost.

Commercial pharmaceutical companies typically distribute their products in the same way as VA and DoD. Those companies have warehouses positioned across the country from which they ship orders to nearby customers. That allows the companies to give rapid service and, at the same time, contain their costs of distribution.

IHS Savings Through Centralization

IHS experience with centralization has produced tangible benefits. Since 1969, four IHS areas have established central warehouses. Results from before and after area centralization for the Oklahoma and Navajo areas show significant savings for a period from the late 1970s to the early 1980s (Table 4-1).

In nearly every cost and service characteristic, dramatic improvement occurred after centralization. Inventories dropped, in the Oklahoma City area by almost \$1 million. The drop in inventory also saved money tied up in inventory carrying costs such as warehouse labor, facilities, transportation, loss, theft, and obsolescence. Transaction volumes were sharply reduced – by more than half in the Navajo area – saving additional labor costs in finance, auditing, and procurement areas. Most important, fill rates improved. For health care professionals, that meant

TABLE 4-1

IMPROVEMENTS FROM WAREHOUSE CENTRALIZATION

| | Before area centralization | | After area centralization | | Improvement | |
|-------------------------------------|----------------------------|---------------|---------------------------|---------------|--------------------|---------------------|
| | Navajo | Oklahoma City | Navajo | Oklahoma City | Navajo | Oklahoma City |
| Inventories | | | | | | |
| Average on hand (months) | 5.0 | 6.3 | 3.8 | 3.0 | -1.2 -24.0% | -3.3 -52.4% |
| Dollar value | 1,655,500 | 2,372,600 | 1,289,800 | 1,381,900 | -365,700 | -990,700 |
| Line items | 4,973 | 7,048 | 1,978 | 1,883 | -2,995 (-60.2%) | -5,165 (-73.3%) |
| Transactions | | | | | | |
| Store stock documents ^a | 4,902 | 4,344 | 2,313 | 2,643 | -2,589 (-52.8%) | -1,701 (-39.2%) |
| Line items | 11,983 | 10,508 | 6,083 | 5,944 | -5,900 (-49.2%) | -4,564 (-43.4%) |
| Direct issue documents ^b | 10,904 | 8,836 | 7,710 | 9,137 | -3,194 (-29.3%) | 301 (3.4%) |
| Line items | 31,925 | 53,003 | 22,113 | 31,162 | -9,812 (-30.7%) | -21,841 (-41.2%) |
| Fill rate | 92.9% | 89.7% | 97.6% | 95% | 4.7% | 5.3% |

^aStore stock transactions are purchases of large quantities of material to replenish warehouse stock. That material is subsequently issued in smaller quantities to users upon request.

^bDirect issue transactions are purchases of material, usually in small quantities, for a specific user who accepts the entire purchase quantity once it is received.

more time was available to treat patients – time that was previously spent hunting for critical items not available from their decentralized supply warehouses. Only one performance indicator, Oklahoma City's direct issue document transactions, was worse after centralization. That indicator eventually improved but at a slower rate, which placed its improvement outside the period of our comparison.

With IHS's 1988 operating data, we were able to reconfirm the OASH Report's findings of lower purchase prices and lower inventories at centralized areas. We also found that, on average, areas with central warehouses save money on lower costs for inventory, labor, facilities, and transportation. The following subsections provide our estimates of those savings.

Lower Purchase Prices

Analysis of IHS buying practices indicates that centralization will save the agency from \$630,000 to \$1,520,000 a year by reducing the use of open-market purchases from sources with whom the Government does not have a contract. On average, open-market purchases cost at least 30 percent more than purchases for the same material from Government depots or contract sources. In 1988, 41.5 percent of IHS pharmaceuticals, supplies, and subsistence purchases for hospitals and clinics were purchased from the open market.

In Figure 4-2, we show the percentage of open-market purchases made by each IHS area. To identify potential savings, we use a 30 percent price discount factor (which we believed to be conservative), the average open-market purchase percentage achieved by IHS central warehouses, and the actual dollar values of FY88 area open-market purchases.

Open-market savings were calculated at several levels. If IHS reduced its open-market purchases to the level achieved by its central warehouses, it would have saved approximately \$630,000 in 1988. If on the other hand, it reduced its open-market purchases to the 20 percent level considered appropriate by Congress for the Veterans Administration, it would have saved approximately \$1.5 million.³

Lower Inventory Carrying Costs

Centralization would have also achieved significant inventory carrying-cost reductions, perhaps as much as \$7.4 million in 1988. In addition to the actual cost of inventory, inventory carrying-costs also include the costs of facilities, labor, repair, shrinkage, and obsolescence.

Figure 4-3 shows months of on-hand inventory for each area.⁴ It also shows the one-time dollar savings that could be realized by reducing inventory levels for all areas to those achieved by the central warehouses in Portland (3.8 months),

³Public Law 100-322, Title IV, Section 403(b) (3)(A).

⁴Months of inventory is calculated by dividing on-hand inventory (in the service units and at depots) by annual usage and multiplying by 12. The result is the number of months of issues that on-hand inventory will support.

Oklahoma City (2.8 months), and an average large commercial hospital warehouse (1.3 months).⁵ Depending upon the level to which it reduced inventories, IHS savings would range from \$860,000 (3.8 months of inventory) to \$7,430,000 (1.3 months of inventory).

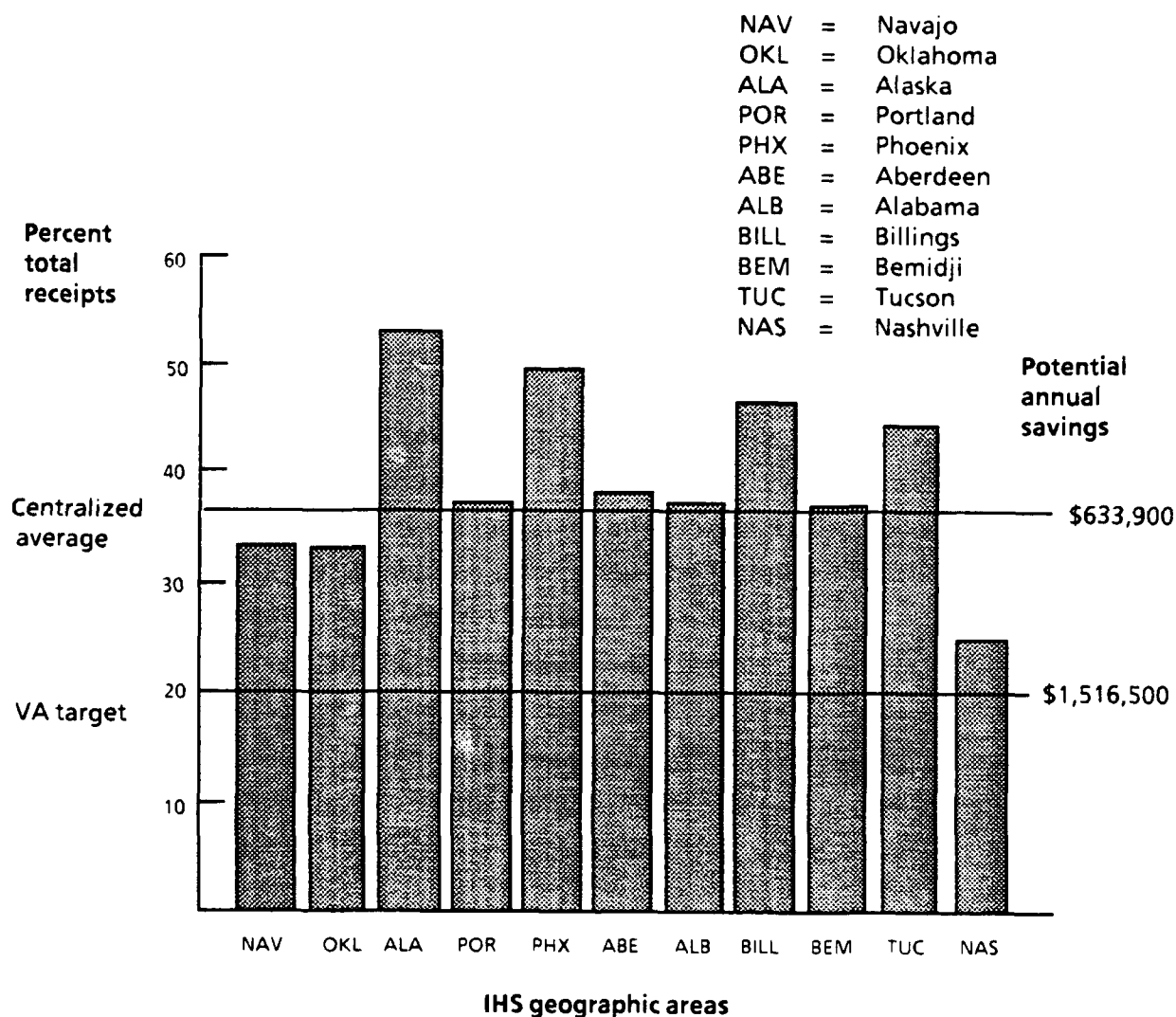


FIG. 4-2. OPEN-MARKET PURCHASES

Any savings, of course, are predicated on IHS service units receiving supplies more quickly. To ensure that happens, warehouses must have material when it is

⁵Large hospitals use warehouses whose operational volumes equal or exceed those of IHS's central warehouses. While it is doubtful that IHS could match their performance, it is likely the inventory levels could be reduced below those of the Oklahoma City area.

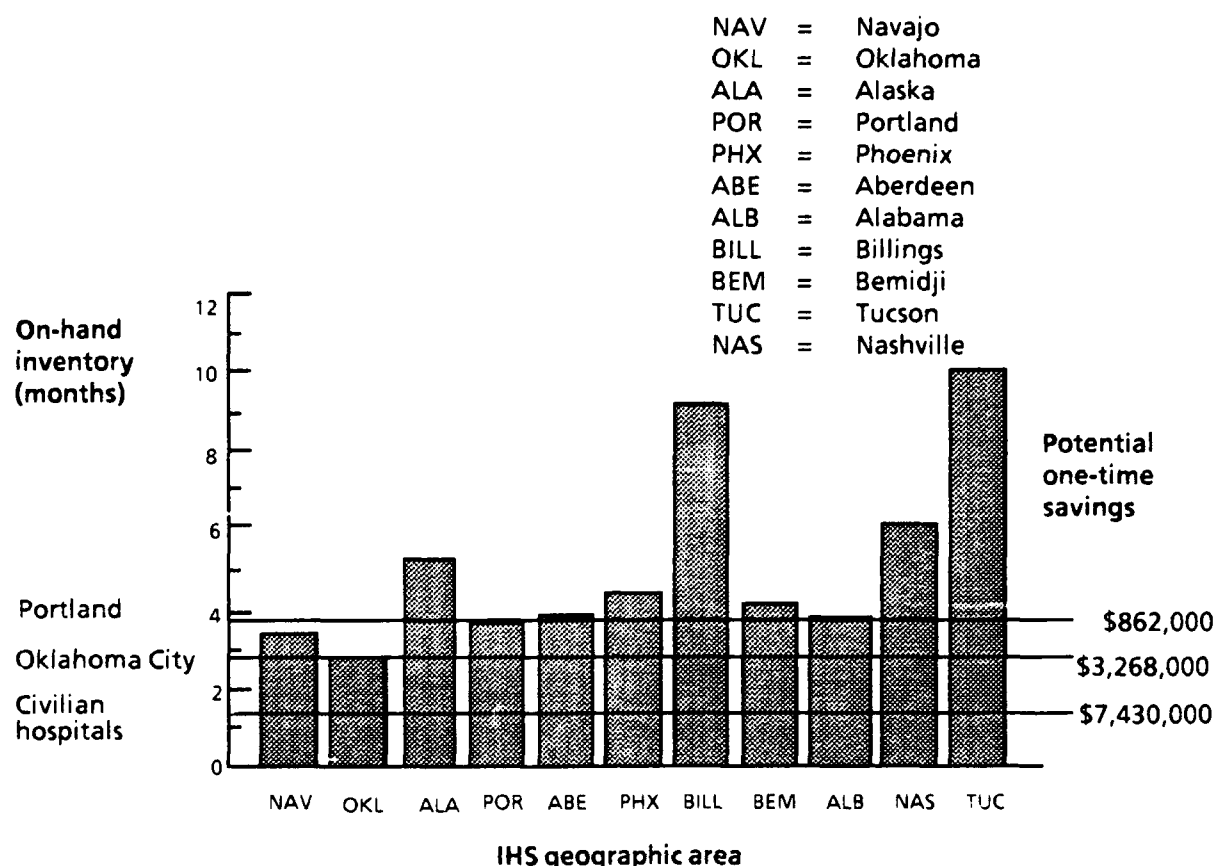


FIG. 4-3. INVENTORY ON HAND (MONTHS)

ordered and must provide quick delivery (the combination of order placement, in-house processing, and transportation time). Centralized areas have met those requirements with their high fill rates and quick delivery times. High fill rates are the result of standardization and better inventory control; quick delivery times are the result of shorter transit times to customers and rapid in-house processing times.

Centralization promises another inventory cost reduction that is not easy to estimate. Nurses and other health professionals hold large quantities of medical material inventory in patient care areas of health facilities (up to three times as much as that held in the warehouse according to one commercial study). Such hoarding occurs because they have been burned by an inadequate supply system in the past. We cannot expect hoarding of supplies to disappear completely, but experience in the Oklahoma City area has shown that improved supply support will

significantly reduce it. Reducing that practice will save not only the cost of material but also the professional time spent managing it.

Improved Facility Use

Reduction of inventory, wherever it is kept, will reduce the amount of space IHS health facilities devote to inventory storage. In a joint study with several Phoenix area service units, we examined the space those facilities now use to store material. We conclude that centralization would reduce the need for such space by 25 to 40 percent.

Reduced Labor Costs

We estimated IHS's potential annual labor savings by using data from a non-Government study that related warehousing costs to inventory levels.⁶ That study found average labor costs were 8.4 percent of total inventory value. By applying the 8.4 percent to the estimated inventory reductions noted above (\$860,000 to \$7,430,000), we calculated a labor savings from centralization in the range of \$72,000 to \$624,000. Other savings, as a percentage of inventory reductions, are shown in Table 4-2.

TABLE 4-2
INVENTORY CARRYING COSTS AS A PERCENT OF
ON-HAND INVENTORY

| Category | Percent savings | Annual dollar savings | |
|--------------|-----------------|-----------------------|---------|
| | | Minimum | Maximum |
| Salaries | 8.4 | 72,408 | 624,095 |
| Depreciation | 4.9 | 42,238 | 364,055 |
| Repairs | 1.2 | 10,344 | 89,156 |
| Utilities | 1.2 | 10,344 | 89,156 |
| Shrinkage | 5.4 | 46,548 | 401,204 |
| Obsolescence | 2.4 | 20,688 | 178,313 |

⁶Ammer, Dean S. *Purchasing and Materials Management for Health-Care Institutions*. Lexington, MA: Lexington Books, 1983.

Further labor savings are possible by reducing document transactions. Using IHS's current transaction volumes for store stock and direct issue receipts, an estimated cost of a purchase order of \$43, and the experience of the Navajo area when it centralized in 1979, we estimated potential annual savings to IHS of about \$1.2 million (Table 4-3).⁷

TABLE 4-3
TRANSACTION LABOR SAVINGS FROM CENTRALIZATION

| Category | Transactions (Navajo area) | | Percent reduction | IHS number of system documents | Per document cost (\$) | Annual labor savings (\$000) |
|----------------------|-------------------------------|------------------------------|----------------------|---|---------------------------------|---------------------------------------|
| | Before centrali- zation | After centrali- zation | | | | |
| Store stock | 4,902 | 2,313 | 52.8 | 21,317 | 43 | 484 |
| Direct issue | 10,904 | 7,710 | 29.3 | 54,427 | 43 | 686 |
| Estimated savings | | | | | | 1,170 |

The bulk of those savings result from the reduction of administrative time spent processing IHS's large number of direct-issue receipts. Direct-issue receipts are purchases of material, usually in small quantities, for a specific user who accepts the entire purchase quantity once it is received. Store stock purchases, by contrast, are large-quantity purchases made to replenish warehouse stock.

IHS areas with centralized supply operations have vastly reduced their dependence on direct-issue receipts and have substantially lowered costs. The labor cost to process a single direct-issue receipt and a single store stock receipt are the same. Both require purchase actions, financial obligations, auditing, and bill payment. With direct issues, however, those actions occur for every customer issue. For a store stock receipt, from which tens or hundreds of issues are made, the actions occur only once. Thus, the administrative costs of a store stock receipt can be spread over many issues while the costs of a direct issue can be spread over only one.

As an example of the cost of direct-issue receipts, consider the purchase of a particular item for doctors. In decentralized areas, that item is bought as a direct

⁷The cost per purchase order is that used by GSA in a previous study that examined the benefits of using credit cards in place of cash.

issue by a service unit if it does not stock the item in its small warehouse or if it is out of stock. For the sake of example, let us say that item is particularly popular. Over the course of a year, it is purchased 10 times as a direct issue. For each purchase, the decentralized area must pay people to purchase the item, obligate the purchase, and then to audit and pay the invoice. It must also pay to ship the item.

In a centralized area, by contrast, one store stock purchase of 10 items is made to stock the warehouse. The larger purchase quantity of 10 is shipped at less expense than 10 single-unit shipments. People are paid once to process the receipt when it arrives. Thereafter, a small amount of labor is expended to issue items from the warehouse as requested, but that labor is far less than the labor required to process 10 single unit orders.

Thus, high numbers of direct-issue transactions represent higher labor costs. Centralization reduces those costs by relying far more heavily on store stock transactions. In the Navajo area, for example, direct-issue purchases dropped by 29.3 percent after that area's central warehouse began operation.

A second labor savings – one we were unable to evaluate in dollars – was the cost of medical professionals whose time centralization would save. During our field visits, we were repeatedly told by these key personnel that they had to spend too much time (though none quantified the time) working on supply business to compensate for poor supply support. They also said that heavy administrative workload had been a factor in the decision of many of their predecessors to leave IHS.

The turnover rate of professional medical personnel represents a real cost that directly affects patient care. In the areas with central warehouses, the time those individuals spend on supply matters has been significantly reduced because of improved service and reliability. We can only speculate that that reduction has contributed to reduced turnover and, thus, better patient care.

Other Inventory Carrying-Cost Savings

In addition to inventory, warehouse labor, and facility costs, inventory carrying costs also include depreciation, repairs, utilities, shrinkage, and obsolescence (Table 4-2). Applying the percentages of inventory costs that each of those costs represent to IHS's estimated inventory reductions resulted in additional savings

ranging from \$130,000 to \$1,122,000 that IHS could expect from centralization's reduction of inventories.

Direct Purchase Savings

IHS can also save more than \$1.5 million a year in material, transportation, and obsolescence costs by directly purchasing material from manufacturers. To realize those savings, however, IHS must design its supply network carefully if it is to maintain sufficient volume to purchase material directly from shared procurement contracts.

In 1988, IHS purchased \$10.1 million of supplies from the Perry Point Center and \$7.5 million from the VA (see Table 4-4). In a large number of cases, both the Center and the VA bought material through identical procurement contracts. Those contracts require manufacturers to pay for the transportation of Government orders to the first Government destination. They also specify that those orders must have a minimum of 18 months of shelf-life when delivered.

To defray their operating costs for ordering, stocking, and issuing that shared contract material, the Government depots each marked up the cost of their stock. In the VA case, that markup was 6 percent including transportation. In the Perry Point Center case, it was 12 percent exclusive of transportation for all customers. Transportation cost was billed to customers separately by the delivering carrier.

If IHS increased the amount of material purchased directly from manufacturers using shared procurement contracts, it could reduce its supply system costs in several ways. First, it could reduce its payment of Perry Point Center markups and eliminate transportation costs from the Center to its central warehouses in the West. Second, it could reduce obsolescence costs by reducing the frequency with which shelf-life items are replaced. That would produce both a supply and a labor cost savings. Finally, IHS could reduce on-hand inventories by reducing delivery times and improving fill rates. Fill rates and delivery times from manufacturers are considerably better than those from the Perry Point Center. Delivery times are better because many manufacturers ship from a warehouse network similar to the one we recommend for IHS. They would ship from their closest warehouse.

Because not all the material IHS purchases from VA or the Perry Point Center is bought under shared procurement contracts, we made several assumptions when

TABLE 4-4

INDIAN HEALTH SERVICE RECEIPT VALUES BY SOURCE FY88

| Source of purchase | Total (\$) | Percentage of total purchases (%) |
|-----------------------------|-------------------|-----------------------------------|
| Government sources | | |
| Perry Point Center | 10,066,947 | 15.4 |
| GSA depots | 1,513,600 | 2.3 |
| VA depots | 7,534,200 | 11.5 |
| Military depots | 896,400 | 1.4 |
| Other Government | 371,700 | 0.6 |
| Internal | 126,300 | 0.2 |
| Other agency excess | 73,400 | 0.1 |
| Subtotal | 20,582,547 | 31.5 |
| Government contracts | | |
| Federal supply contracts | 1,746,600 | 2.7 |
| VA contracts | 14,951,400 | 22.9 |
| Area office contracts | 1,176,100 | 1.8 |
| Other supply contracts | 64,200 | 0.1 |
| Subtotal | 17,938,300 | 27.4 |
| Cash/SF44 | 703,700 | 1.1 |
| Open market | 26,193,900 | 40.0 |
| Total | 65,418,447 | 100.0 |

we estimated IHS savings from direct purchasing. We assumed that VA, like the Perry Point Center, purchased approximately half of the medical material IHS bought from them using shared procurement contracts. We assumed a lower percentage for DoD (20 percent) because the largest part of IHS's purchases from DoD was for nonperishable subsistence, and DoD does not buy such material through shared procurement contracts. Finally, we assumed a very conservative 10 percent of IHS open-market purchases (at markups of 30 percent) could be avoided by buying

direct. As illustrated in Table 4-5, estimated annual savings totaled \$1.68 million, 2.6 percent of IHS's \$65 million annual cost of supplies.

TABLE 4-5
MAXIMUM ANNUAL DIRECT PURCHASE SAVINGS

| Source of receipt | Material expenditure (\$000) | Percent shared procurement | Markup percentage | Estimated savings (\$000) |
|--------------------|------------------------------|----------------------------|-------------------|---------------------------|
| Perry Point Center | 10,067 | 50 | 13 ^a | 654 |
| VA | 7,534 | 50 | 6 | 226 |
| DoD | 896 | 20 | 8 | 14 |
| Open market | 26,193 | 10 | 30 | 786 |
| Total | 44,691 | | | 1,680 |

^aIncludes transportation.

That estimate is corroborated by a more detailed analysis of Oklahoma City's direct purchase savings done by the Oklahoma City central warehouse. That analysis estimated direct purchase savings would be approximately \$250,000 annually on sales of \$10,000,000 (2.5 percent) for the Oklahoma City area. The extrapolation of that amount to all IHS closely approximates our savings estimate.

Summary of Savings

Table 4-6 summarizes the savings we estimate IHS could achieve through centralized support. Our savings estimates are based on the data that were available from IHS and the Perry Point Center, and estimates for data that are not available. Our estimates should be used carefully since the margin of error for all of those data sources appears high. Nonetheless, the minimums are, in our opinion, quite attainable if the changes we have recommended are implemented.

THE IHS WAREHOUSE SUPPORT NETWORK

In this section, we present the concept of networked central warehouses we recommend IHS implement to realize the savings we estimate. Under that concept, IHS would provide regional supply support to minimize the number of IHS warehouses needed and to create equity of supply support among all IHS service

TABLE 4-6

IHS SUPPLY SYSTEM SAVINGS SUMMARY

| Savings component | Savings (\$000) | |
|-------------------------------|-----------------|---------------|
| | Minimum | Maximum |
| Inventory (one time) | 862 | 7,430 |
| Annual savings | | |
| Labor (transaction reduction) | 800 | 1,170 |
| Direct purchasing | 1,000 | 1,680 |
| Purchase prices | 634 | 1,517 |
| Labor (warehouse) | 72 | 624 |
| Other carrying costs | 130 | 1,122 |
| Total | 4,398 | 13,392 |

units. In this chapter, we describe the network configuration first and then present some questions that must be answered by IHS before the network can be fully designed. We then discuss management and ownership of the network and its funding. Finally, we discuss the near- and long-term use of the Perry Point Center.

Configuration

Conversion to a centralized supply support system will be a complex, difficult task for IHS. To reduce that complexity, we recommend that the initial warehouse network comprise the three existing IHS central warehouses in Portland, Gallup, and Ada as well as the Perry Point Center. That four-warehouse network configuration will produce the minimal customer service interruption while the agency goes through the transition to a centralized supply support environment. Gradually, as area offices, service units, and central warehouses became more comfortable with regional support, the number of warehouses in the network should be reduced to achieve the lowest system costs while providing acceptable delivery times.

A notable omission from the central warehouse network we propose is the Alaska area central warehouse, which we recommend not be considered part of the central network. Its geographic distance and its difficulty of supporting Alaska

service units alone make it impractical for that facility to support anyone else. We foresee that Alaska would eventually get its support from an IHS network warehouse in the West (probably Portland) rather than from the Perry Point Center. That action would reduce delivery times, inventory, transportation, and labor costs while improving service for Alaska area customers.

The ultimate IHS network configuration will depend heavily upon the delivery times IHS wishes to offer customers. If, for example, 1-week delivery time is acceptable, a network warehouse will be able to serve more customers that are located further from the warehouse than if 3 days were the delivery standard. The more customers a network warehouse serves, the fewer warehouses IHS needs. VA, for instance, serves 172 medical centers and over 200 outpatient clinics with only three warehouses. We believe that IHS will ultimately need fewer than the four warehouses we initially recommend.

The transitional network we recommend will, at first, change little. Central warehouses will still provide the majority of support for their centralized area customers, while decentralized customers will still order primarily from the Perry Point Center. Slowly, as necessary staffing, facility upgrades, and other preparations are put in place, service units near central warehouses but not now served by those warehouses will switch their support from the Perry Point Center to the IHS warehouses. For example, Keams Canyon, Zuni-Ramah, and Acomita-Canoncita Laguna are close to Gallup and would begin to receive their supplies from that central warehouse. As more and more support transfers from the Perry Point Center to western central warehouses, delivery times will drop and, with the higher fill rates of IHS's central warehouses, stock availability will improve. That improvement will allow service units to reduce their inventory, labor, material, facility, and transportation costs.

Support for all Perry Point Center western customers (including non-IHS customers such as the Pacific Trust Territories) should eventually be assumed by IHS network warehouses in the West to provide service and cost improvements to all customers. Eventually, up to 73 percent of the Perry Point Center's current sales would be transferred to network warehouses in the West. The speed of that transfer will depend upon those warehouses acquiring the necessary space, personnel, inventory, and other capabilities to serve a larger customer base.

After those transfers, IHS must decide whether to discontinue Perry Point Center warehouse functions — we separate its warehousing functions from its other functions such as contracting and inventory management — or seek additional customers in the East to replace lost sales. Both alternatives have merit. Closing the Center's warehouse would enable IHS to staff western warehouses without increasing its overall staffing levels. It is likely, however, that that action would provide only positions, not personnel. Many of the Center's current staff have lived near the Center for years. Center management believes that few would want to move.

On the other hand, the Public Health Service could benefit if the Center were to seek additional customers. Neither the National Institutes of Health nor the Centers for Disease Control purchase much from the Perry Point Center, and the Center's shared procurement contracts might offer those agencies substantial material savings. That strategy would also benefit IHS since it would increase its warehouse network volumes, further reducing its costs. It would also, however, place a greater management burden on IHS. One fact is clear: the loss of up to 73 percent of its sales would make the Perry Point Center's continued warehouse operations virtually impossible without some additional action.

Finally, after the transfer of western customers to western warehouses and the resolution of the use of the Perry Point Center as a network warehouse, IHS should begin to optimize its central warehouse network. We believe that network should eventually have no more than three warehouses and perhaps as few as two. In total, those facilities would initially provide approximately \$20 million in annual support. By way of comparison, the VA provides more than \$300 million in centralized support from its three warehouses.

Number of Warehouses

To determine the number of warehouses that should ultimately constitute the IHS supply support warehouse network from a purely economic perspective, IHS must answer four questions:

- Are receipt volumes of each warehouse in the network sufficient to allow direct shipments from manufacturers?
- Are the operating costs of any warehouse in the network high enough to limit or preclude the use of that warehouse in the network?

- What are acceptable transit times of carriers from warehouses to customers and are those times sufficient to permit reducing customer inventories?
- Do any facility or staff constraints limit the services warehouses would provide or the customers they would serve?

Receipt Volumes

Keeping receipt volumes of each warehouse high is an important objective of the central network. We earlier noted that direct shipment savings from manufacturers were only available to those facilities capable of meeting manufacturer's minimum order sizes, usually \$5,000. If IHS keeps too many warehouses, receipt volumes will be low, making it likely some warehouses could not meet those direct delivery minimums. In that case, material will have to be transshipped from those warehouses that are able to meet minimums to those that cannot. The duplicate labor and transportation costs as well as the increased delivery times would eliminate many of the savings of direct shipments.

High receipt volumes are also important for another reason. The Perry Point Center is now the only PHS facility entitled to receive direct shipments from manufacturers on shared procurement contracts. To modify that specification, IHS would have to have the approval of DoD and VA, the other members of the shared procurement board. The board will want to ensure that expanding the number of PHS receipt points will not affect the price of future contract bids. If additional network warehouses increase contract costs, IHS will have little chance of increasing the number of direct shipment points specified in the contract. Thus, each shipping point must be selected to maintain suppliers' interests in providing free delivery.

Operating Costs

Operating costs of individual warehouses in the network include labor, transportation, facilities, and utilities in addition to the cost of the goods each warehouse sells. If operating costs are significantly higher for one network warehouse location than another, IHS should consider relocating that warehouse to facilities with lower operating costs.

Transit Times

Reducing transit times will improve service, permit customers to build confidence in the system, and perhaps reduce customers' inventories. What

constitutes acceptable transit times cannot be determined in isolation. Faster transportation will reduce transit times but it will also increase transportation costs. Increasing the number of warehouses will reduce transit times by placing those facilities closer to the customer, but facility and inventory costs will increase. Thus, the specification of network delivery times must be balanced against the costs of transportation, inventory, and facilities. Figure 4-5 illustrates those tradeoffs.⁸ To determine the best balance, IHS must analytically model those data before it can determine the number of warehouses to operate.

Facility or Staff Constraints

Facility or staff constraints are important although perhaps only in the short term when they may limit the services and customers that specific warehouses could support. In the long term, space can be added or leased and the number of FTE positions increased to handle the larger inventories needed to support all regional customers.

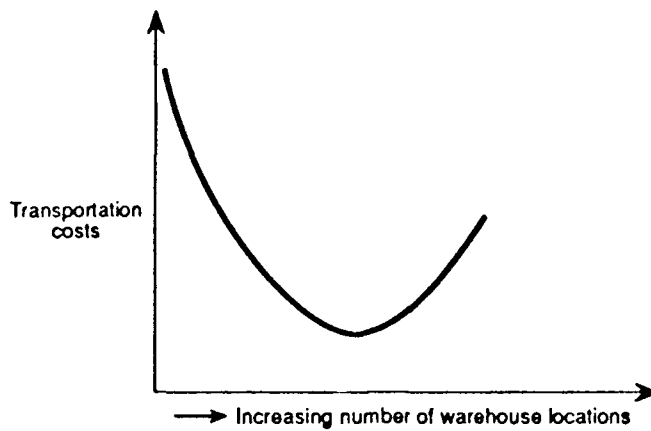
Each of IHS's three western warehouses has some ability to expand its inventories and to support more customers. Because of good planning, the Navajo area warehouse has the space to hold expanded inventories and could serve more customers now. It could also quickly increase available space by another 20 percent within a year.

The warehouses in the Portland and Oklahoma City areas, on the other hand, have little or no excess capacity and only limited capability to expand. For Portland, that does not represent a significant problem. Since it is located in cramped space in an expensive downtown office building, moving to larger, less expensive facilities in the suburbs would reduce its costs and increase its capacity.

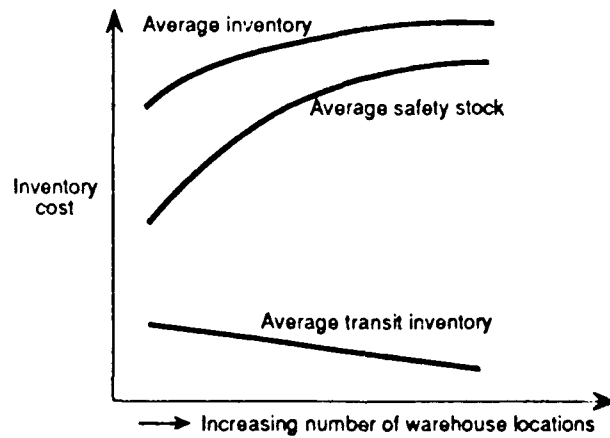
The Oklahoma City warehouse is not so lucky. It is located in Ada, a small town two hours southeast of Oklahoma City. Additional warehouse space is available in Ada, but the town's distance from Oklahoma City's major truck and air routes put the Ada warehouse at a disadvantage as a central network warehouse.

Clearly, the optimization of the IHS supply warehouse network will be a complex, difficult task. Different levels of service produce different network costs for

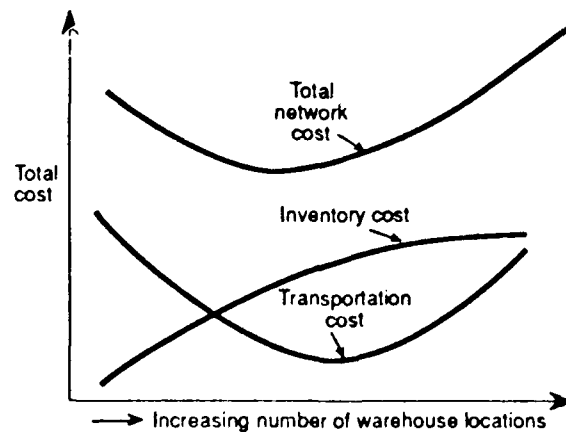
⁸Bowersox, Donald J., David J. Closs, and Omar K. Helferich. *Logistical Management*. New York: Macmillan Publishing Company, 1986.



(a) TRANSPORTATION COST AS A FUNCTION OF THE NUMBER OF WAREHOUSE LOCATIONS



(b) AVERAGE INVENTORY AS A FUNCTION OF NUMBER OF WAREHOUSE LOCATIONS



(c) CUMULATIVE TRANSPORTATION AND INVENTORY COSTS AS A FUNCTION OF WAREHOUSE LOCATIONS

FIG. 4.5. SUPPLY NETWORK COSTS

transportation, inventory, and facilities that IHS must balance in order to find the lowest cost combination. Once solutions are known, they may take several years to achieve because of funding, politics, and operational issues.

Management and Ownership

We recommend the IHS warehouse network be "owned" by IHS headquarters and that its overall performance be the responsibility of a new IHS Division of Supply Management (DSM). In Chapter 5 we discuss the establishment and operation of that division. In recommending that IHS own the central warehouses now owned by the Portland, Oklahoma City, and Navajo areas, we recognize that those areas will not wish to jeopardize the excellent service they now receive by giving up their operation of those facilities. We, therefore, also recommend that the Portland, Navajo, and Oklahoma City areas operate and manage their current warehouses under "contract" to DSM and that DSM operate the Perry Point Center directly. Under such an arrangement, IHS would specify performance requirements such as minimum fill rate, in-house turn-around-time, delivery times, unit costs, etc. The three areas would then be free to choose the methods by which they met those requirements.

We recognize that this approach represents a radical departure from present practice but, for several reasons, we strongly recommend its acceptance. For IHS, ownership of these warehouses and the ultimate authority to specify how well they must perform is crucial to the establishment of a supply system that economically and equitably serves the needs of all IHS facilities. Much of the savings from supply centralization will result when decentralized areas are able to change their traditional approaches to supply. Those changes will not occur, however, if decentralized areas fear that the parochial interests of Portland, Navajo, or Oklahoma City will affect their support.

Past actions of at least one centralized area support that fear. In that case, an area budget shortage prevented its central warehouse from reordering stock, thereby driving up supply operating costs. Labor and material costs both rose when the central warehouse was forced to place smaller spot buys to protect its customers. In addition, fill rates dropped forcing some service units to buy on the open market at higher prices. If that area had supported regional customers from other areas, they would have incurred the same costs.

We believe a change in ownership and funding of central network warehouses (addressed next) will prevent parochial area concerns from affecting network customer support. Headquarters ownership of central warehouses would make it clear that headquarters is responsible for the performance of those facilities, but that does not mean headquarters must manage each network warehouse directly. We recommend Portland, Navajo, and Oklahoma City areas continue to operate their warehouses. They have worked very hard over many years to develop their facilities and view them as crucial to their operations. The contract those areas would sign with Headquarters would allow them complete operational freedom as long as their facility performance met contract standards for fill rates, unit costs, and delivery times to all customers within their assigned geographic support areas. It would also call for them to provide technical supply assistance to all customers as they do for their area customers now. We recommend that assistance continue but that it be provided to all customers supported by a central warehouse.

A centralized warehouse network will certainly provide benefits to those areas without centralized support, but will also benefit the Oklahoma City, Navajo, and Portland areas. As mentioned, the increased volumes in their central warehouses will provide greater economies of scale and allow them to take advantage of buying power at the IHS, not just the area, level. The resultant decrease in operating and material acquisition costs will reduce material cost rates in those areas even more.

Funding

Service and Supply Funding

We recommend that IHS fund the operation of its warehouse network under the OASH SSF, a self-replenishing fund that does not expire at the end of each fiscal year. That method is used now by the Perry Point Center. It is also the same type method used by VA, DoD, NIH, and GSA. Currently, IHS uses appropriated funding to operate its central warehouses. In the past, that method has led to higher supply costs and to customer support problems in times of budget shortages. Conversion to the SSF will minimize support problems and reduce supply costs.

Under appropriated funding, at the beginning of each year, a central warehouse must estimate the budget allocation it will need to operate for that year. Once funding is available, the warehouse receives a budget allocation that may or may not

fund operations at the level needed to satisfy customers' needs and to keep their supply costs low.

We mentioned in the last section that budget constraints actually prevented one central warehouse from buying stock or buying it in sufficient quantities to generate low prices. That, in turn, led to reduced reliability, increased open-market buying, higher material prices, and, ultimately, higher customer inventories. Unexpected events such as Hurricane Hugo in 1989 can exacerbate the consequences of constrained budgets by forcing areas to redistribute funds, usually from supply to direct health care.

Appropriated funding of network warehouse operations will, in our opinion, jeopardize the success of IHS-wide centralized support. If budget limitations in the Navajo area, for example, prevented the central network warehouse from reordering stock that supported Albuquerque service units, the reduced fill rates would then affect supply support in both areas. The trust and confidence of customers in both areas would quickly disintegrate leading to increased local inventories as a safety buffer against future problems. Many of the savings from centralized support (reduced inventories, labor, transportation, and facility costs) would be lost.

Service and supply funding prevents budget problems of one area from affecting the actual support of others by perpetually generating the revenue needed to pay the costs of customer support. The VA, for instance, places a 6 percent markup on each item it sells. The markup pays for transportation of material to customers and for other costs such as labor, repairs, facilities, equipment, and improvements needed by VA warehouses to provide good customer support. If VA's business is greater than expected, its markup automatically produces the resources necessary to meet that increased demand. Under appropriated funding, the VA's supply organization would be forced to seek additional appropriated resources to provide that service. At best, that would delay service if resources were available to redistribute; at worst, it would deny service to customers when resources were unavailable.

In contrast to the VA example, appropriated funding has caused difficulties for the Alaska area's central warehouse operation. In Alaska, IHS tribal contracts provide resources to the tribes for supply support. When those tribes use more supplies than anticipated, the Alaska area must divert its own funds to cover the

increased cost of its supply support operations. Under SSF an automatic mechanism would be available to pay for that support from sales revenues.

Service and supply funding also creates a climate in which cost savings are more likely to occur. Under SSF, warehouse directors will be responsible for all costs of their operation. Now, they are responsible for only part. FTE positions, for example, are allocated and paid for by the area office irrespective of the amount of support provided by the central warehouse. To satisfy unexpected requirements, the warehouse can elect to use overtime which increases hourly labor costs. With full responsibility for the cost of warehouse operations, a warehouse director would rather avoid those costs by hiring more part-time or full-time personnel or substitute labor saving equipment.

Product Markups

Under SSF, the law requires that warehouse directors ensure that their sales revenues pay for all of their costs. If expected costs exceed projected revenues they can increase markups but only after rigorous scrutiny by the OASH Director of Supply Management. Warehouse directors will have strong incentives to minimize costs and keep markups low by improving the productivity of all resources. Substituting one resource for another to achieve lower costs will be encouraged. A new fork lift or computer that reduces labor costs, for instance, could be funded through SSF. Ultimately, the success of a warehouse director will come down to one measure: product markup. That measure is the barometer of operational efficiency since failure to control or reduce costs must result in higher markups.

Because of the need to cover all costs, material prices from network warehouses operating under SSF will be higher than now, but those prices should not increase area supply costs. Currently, customers pay the same price for material from central area warehouses as those warehouses pay their vendors; i.e., purchased material carries no markup. Other operational costs such as labor, transportation, rent, and repairs are paid from separately budgeted area office accounts. Conversion from appropriated funding to SSF will redistribute those amounts to service units and tribal contractors who would then use their larger allotments to buy central warehouse material. If properly done, that redistribution would produce no new costs for the areas, but will require that service unit supply budget be increased and area office budgets reduced.

THE FUTURE OF THE PERRY POINT CENTER

Near-Term Use of the Perry Point Center

The Perry Point Center's service problems and higher prices lead to the questions, "Why should IHS take over the Perry Point Center? Why not support IHS needs from IHS warehouses?" Clearly, existing IHS warehouses have done a better job supporting their customers than has the Perry Point Center.

Several reasons argue strongly for IHS continuing to use the Perry Point Center. First, IHS could not simply and unilaterally decide to stop using the Center. Because IHS is such a large customer (64 percent of the Center's sales), its decision not to use the Center would, for all intents and purposes, put the Center out of business. The Center would have to take drastic action to remain operational. A sizable portion of its work force would have to be dismissed to reduce labor costs, but even then, it is doubtful whether the Center could reduce its costs enough to economically serve the still sizable business that remained. It would have to increase markups, but those markups are already higher than the VA's or DoD's. It could not practically increase them further. Simply shutting down the Perry Point Center would deny a substantial portion of customers a source — perhaps their only source — of pharmaceuticals and other important medical supplies. It would also put 40 PHS employees out of work.

Second, IHS has its own reasons to continue using the Perry Point Center. Without a warehouse network to satisfy the current supply needs of its service units in areas with decentralized supply systems, those service units would lose not only their most used supply depot, but their primary source of information about supply. They would expend far more labor than they do now to locate sources of supply, and they would spend more for those same supplies, unless they were purchased from the VA (which carries fewer items than the Perry Point Center does). Without a substantial increase in the capabilities of their supply personnel and some system to pool their demand, the service units would find themselves poorly positioned to use any of IHS's substantial buying power. Until they have an alternative source of supply, the Perry Point Center is very important to them — and to IHS.

Finally, keeping the Center operating, at least in the short term, allows IHS to use both its own business volume, and that of the Center's other customers, to obtain low prices. Also, with 36 percent of the Center's business to non-IHS customers

amounting to more than \$5 million per year, shutting down the Perry Point Center too soon would divert a significant amount of money to other sources of supply and would prevent IHS from using that money in its planned supply network. For example, if it allows the Center to close too soon, IHS could lose the sales volume for some items that it would need to permit direct delivery to its western warehouses.

In the near term, therefore, IHS should continue to use the Perry Point Center. We have recommended that it take over management of the Center, which is basically a sound organization that simply needs direction to do a good job. We found the Perry Point Center personnel to be capable but very frustrated with the circumstances under which they have to operate. We believe that the Center will serve IHS and other customers well if it has the proper goals, is well managed, and is given the proper resources. By taking over management of the Center, IHS could provide those essential ingredients while ensuring the Center's actions were better aligned with IHS's system goals for cost reduction. The Perry Point Center will also bring to IHS a range of talent and experience in centralized warehouse support, an important consideration for IHS as it moves toward centralization in the future.

Another reason for IHS taking over management of the Perry Point Center is the Center's status as an SSF organization. That status facilitates future IHS action to expand SSF to other warehouses in its network. We believe that the SSF is essential if IHS is to achieve significant savings from centralized supply support. Without SSF and the Perry Point Center, IHS would have to budget several million dollars to stock its warehouses prior to initiating interarea supply support systems.

The Future of the Perry Point Supply Service Center

We have recommended that IHS establish a centralized warehouse network comprising the Perry Point Center and its three central warehouses in Portland, Navajo, and Oklahoma City. We also recommended that network ultimately be reduced to perhaps as few as two warehouses to achieve the lowest cost.

The future of the Perry Point Center in the IHS network depends in part upon decisions IHS must make. We have already discussed, for example, that IHS's choice of standards for acceptable delivery times will affect the configuration of the network. IHS must also decide if it wishes to expand the size of its operations by encouraging the Center to seek new customers. The greater volumes that additional business would generate may make economic sense but they might also tax management

capability and degrade the support given to IHS customers. Thus, any recommendations about the Perry Point Center's ultimate destiny involve more than economics. We do recommend against relocating the Perry Point Center. Such a move would cost a considerable sum and would jeopardize IHS's supply support since few of the Center's existing personnel would be willing to relocate.

We recommend instead that IHS begin a gradual withdrawal of stock from the Perry Point Center and a simultaneous building up of stock in its western network warehouses to support its western customers which, we have noted, account for 73 percent of the Center's sales. Under this process, the Center would fill customer orders but not replace stock as it was issued. When the Perry Point Center's stock balances are reduced to desired levels, support for western customers can be transferred to, and filled from, stock in western network warehouses with minimum cost and disruption.

Within the group "western customers," we include non-IHS customers such as the Pacific Trust Territories which would also benefit since they are far closer to the IHS's Portland warehouse than they are to the Perry Point Center.

After withdrawal of stock from the Perry Point Center and the transfer of nearly three quarters of its sales to IHS's western warehouses, IHS will have three options for the future of the Perry Point Center. First, it can scale down the Center's staffing and operations. As western support is transferred, the Center's staff can also be reduced, first by attrition, then by transferring personnel who are willing to move to western warehouses. Whether the Perry Point Center could remain economically self-sufficient with only one-quarter of its previous business but significantly reduced labor costs must be determined from the specific items and customer information on business which will remain.

As a second option, the Perry Point Center could replace lost business by selling more service and material to other customers. This option has some merit particularly for PHS agencies such as the National Institutes of Health or the Centers for Disease Control with whom the Perry Point Center now does very little business. The Perry Point Center involvement in shared procurement has the potential to offer those organizations and others like them substantial discounts.

Expansion of business to other non-PHS or even non-HHS customers would also have some value since it would increase network volume and add further support to

multiple PHS shared procurement receiving points. That option, however, would probably require additional staff positions. Although SSF would pay for them and IHS technically has no personnel ceilings, PHS nonetheless would have to absorb IHS position increases in its total ceiling.

As a final option, IHS could close the Center and transfer the support of eastern customers to IHS's Oklahoma City warehouse.

The future of the Perry Point Center depends on several questions that cannot be answered until IHS has begun to implement its initial central warehouse network. IHS must move the stock that can be moved to its western warehouses, then analyze what stock remains for the Perry Point Center to maintain. IHS must work with other PHS users of the Center (after improving its performance) to see whether their use of the Center will increase. Finally, IHS must determine whether the Center could satisfy another role in its supply system, such as serving as a central IHS customer support function. Many strategic questions concerning the IHS supply system are being addressed now by the quality management supply support work group. The answers to those questions, combined with actual experience to be gained from implementation of the centralized network concept, will help clarify the value of keeping the Perry Point Center.

CHAPTER 5

ESTABLISH THE IHS DIVISION OF SUPPLY MANAGEMENT

We have recommended that Perry Point be transferred to IHS, that it be part of a central warehouse network, and that all IHS facilities be supported from that network. However, IHS has no organization that could operate and manage such a network. Its supply support is so decentralized that a network of centralized warehouses will not fit into its existing organization.

The current IHS supply organization has itself produced inefficiency. Its broad decentralization of supply management has led to a fragmented supply system in which each of the 12 IHS areas makes independent decisions about satisfying its own supply needs. The resultant supply system cannot realize the considerable economies of scale available to a supply operation as large as that of IHS. Because each area supply operation is relatively small, few have had the opportunity to develop technical expertise in the relatively complex fields of inventory management, warehousing, and distribution. Furthermore, because of the highly independent nature of area operations, the areas have done little sharing of supply expertise. The result has been an inefficient, costly supply system that has bled money from direct health care.

We believe that the IHS headquarters organization must be modified to manage the warehouse network, to eliminate fragmentation, and to take other actions to optimize IHS-wide support.

We recommend that IHS establish a new division – the Division of Supply Management – within its headquarters. It should make that division responsible for managing the central warehouse network which includes the Perry Point Supply Service Center, and for the following activities:

- Interfacing with other Government and non-Government organizations to arrange advantageous supply support agreements
- Issuing IHS-wide policy guidance to ensure optimal performance of supply support systems at all IHS levels

- Conducting audits of all IHS supply operations to check compliance with IHS supply policies and to ensure that good supply practices are followed
- Analyzing IHS-wide material costs, inventories, and performance to identify opportunities to reduce agency supply system costs and to assist operational areas in improving their internal supply management practices
- Taking agency-wide actions to contain supply support costs and to improve service quality.

CURRENT IHS SUPPLY SYSTEM ORGANIZATION

Organization

In the current IHS organization, supply management responsibilities are highly decentralized. In comparison with DoD and VA medical supply organizations, which have large centralized staffs, the IHS supply organization appears almost insignificant. At IHS headquarters, a small supply staff in a secluded part of the organization has limited responsibilities. In the field, some area offices have centralized supply staffs but the majority are decentralized. Operationally, most IHS material decisions and actions occur at the individual service units.

IHS headquarters provides neither direct operational support nor management to those service units. In fact, the single IHS headquarters activity that has any involvement in the IHS supply program is the supply staff, an eight-person supply analysis group located in Albuquerque, N. Mex. Its position within the IHS headquarters organization is shown in Figure 5-1.

The supply staff is assigned the following responsibilities:

- Issue standards for, and evaluate supply performance of, IHS supply operations
- Analyze material expenditures within IHS service units
- Consolidate those expenditures into management reports for the use of service unit, area office, and headquarters managers
- Provide specialized advice and technical assistance to all levels of IHS management.

The supply staff provides no direct operational support and very little policy guidance to IHS customers. All direct support is provided within each area either through a combination of centralized and decentralized supply operations or through

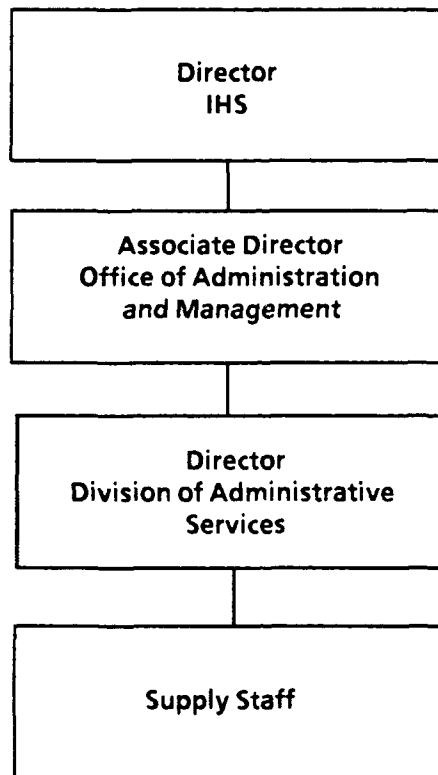


FIG. 5-1. IHS SUPPLY STAFF ORGANIZATIONAL PLACEMENT

decentralized supply staffs (usually one or two people) at the service unit level. Policy guidance is informal and no person or group monitors its use.

In the field, the IHS supply organization varies significantly from area to area. In areas with centralized supply warehouses, a sizable organization under the control of the area office runs the warehouse, provides technical assistance and, in some cases, is responsible for area supply policy and policy monitoring in the service units. In areas without central warehouses, a very small (one or two person) supply staff usually composed of junior-level personnel at the area office monitors service unit supply operations and highlights and resolves supply problems. In that environment, supply staffs have very little authority to influence supply support activities in the service units.

At the service unit level, the supply staff can vary from a sizable staff organized under the administrative officer or the chief pharmacist at large facilities to a single, untrained individual working part time in supply at smaller service units.

Shortfalls in the Current Organization

The current IHS supply management organization has several shortfalls:

- It is not charged to provide any direct operational support to the areas, and thus, neither the Perry Point Center nor a central warehouse network can be logically placed into it.
- It provides only limited technical assistance to the areas although the current highly decentralized environment sorely needs that assistance.
- It does not give IHS the capability to take advantage of agency-wide economies of scale.
- It cannot easily identify products that are bought frequently in sufficient volume IHS-wide to warrant alternative methods of supply.
- It does not have a headquarters capability to negotiate inter-agency or commercial supply support agreements that would benefit all of IHS.
- It does not give senior IHS managers, particularly those at IHS headquarters, the information and technical support they need to ensure that materials are acquired and distributed in the most productive and responsive way.
- It fails to address the full cost of distribution, ignoring all transportation, inventory, labor, and facility costs.
- It provides very little policy guidance and no oversight to field customers.
- It has failed to provide enough high-level visibility to an IHS-wide automated management information and support system Acquisition Resource Management System (ARMS) to ensure its timely acquisition.

Those shortfalls are not the fault of the current supply staff. That staff is simply too small and placed too low in the organization to have the visibility, the direction, and the authority it needs to be effective.

DIVISION OF SUPPLY MANAGEMENT

To correct those deficiencies, the IHS should establish a Division of Supply Management in its headquarters and that division should report directly to the IHS

Associate Director, Office of Administration and Management. The division would replace the small supply analysis staff currently located in Albuquerque and should be located in Albuquerque to be close to its customers.

Responsibilities and Functions

The Division of Supply Management should be charged with ensuring the effective and efficient operation of the entire IHS supply system. To do that, it would provide direct supply support to all IHS health facilities through the central warehouse network (including the Perry Point Center) and would provide staff support and policy guidance to the area offices. We examine these staff, policy, and operational functions in the following subsections.

Staff Functions

The only way to avoid fragmented operation of the IHS supply system is to prepare a formal plan for the operation of the system as a whole and to establish the means to implement that plan. The Division of Supply Management should do that.

The optimization of IHS supply operations is a complex distribution problem that must be resolved with sophisticated analytical tools and procedures. The division staff should acquire the expertise to perform supply systems analysis on a continuing basis to ensure the IHS supply system keeps up with changes in the IHS health care environment. The staff should then use the analyses to develop and maintain a comprehensive plan for IHS supply support.

Once the plan is formulated, the division should develop and implement policies to fulfill it. After the policies are implemented, the division staff should continually reevaluate the plan's effectiveness in light of changing circumstances. As a part of that effort, the staff should analyze the operation of the system compared to past performance, establish whether desired levels of support are being achieved, and determine whether new technological developments would improve system effectiveness if implemented. The division can then make operational and policy changes to improve performance.

In addition to directly supporting the IHS supply plan, the division should provide analytical support of daily supply operations functions such as the following:

- Determining requirements for high-demand items for which system-wide contracts ought to be placed
- Identifying opportunities for item standardization
- Improving quality control parameters for the IHS supply system
- Establishing product testing standards
- Investigating applications of new technology in supply operations
- Analyzing the operation of supply subsystems such as transportation, telecommunications, and supply system software.

Policy Functions

Because the division will serve as the primary source of supply expertise in IHS, it will serve as the primary supply policy office.

Supply policy for IHS should be set by the IHS Associate Director, Office of Administration and Management with input from area and other associate directors. Once policy is established, the Division of Supply Management should be charged with preparing regulations to implement that policy. The division should publish those regulations and serve as the IHS focal point for their clarification. The division should also approve waivers to regulations when they would further the underlying policy objectives.

Finally, the division should ensure that IHS supply policies are successfully implemented. To do this, the division must publish standards for supply system performance to clearly communicate what is required. It must then follow up by analyzing performance data and visiting supply activities, by evaluating the level of performance achieved, and by taking action to resolve problems.

Operational Functions

The Division of Supply Management should manage the Perry Point Center. When it is transferred to IHS, the Center should be managed by the division in accordance with the IHS supply plan. In Chapter 3, we made specific

recommendations to improve the Perry Point Center's service and reduce its costs. Those recommendations should be included in the plan.

We also recommended that IHS centralize the supply support of all its health facilities from a warehouse network comprised of the Perry Point Center and existing central warehouses in Oklahoma City, Navajo, and Portland. That network should be owned by headquarters and managed by the new division. As noted, IHS should contract the operation of its three central warehouses to those IHS areas.

Finally, the division should operate and manage other supply subsystems. Those include, for example, the transportation of goods from network warehouses to customers; identification of common demand items for IHS-wide contracting; operation of the logistics telecommunications system; and operation of quality control, standardization, and product testing programs.

Establishing the Division of Supply Management

The nucleus of the new Division of Supply Management is already in IHS (the small supply analysis staff in Albuquerque) and at the Perry Point Center. IHS's existing supply staff should form the basis of the new division's policy and analysis capability. In addition, when the Perry Point Center is transferred to IHS, the material management staff from HRSA should also be transferred, and it should become the basis of the new division's operations staff.

We recommend the Division of Supply Management be staffed with 50 FTE positions initially. Of that number, 40 would be located physically at the Perry Point Center. The remaining 10 would form the analytical and management nucleus of the new division. Additional personnel should be added in the future to ensure long-term continuous improvements that will further reduce IHS's material costs. Establishing a common catalog system, beginning IHS-wide product standardization, identifying items with system-wide demand, managing system transportation, and setting up a logistics telecommunications system are just a few potential high-payoff initiatives that we believe clearly justify the investment of additional staffing.

CHAPTER 6

SUMMARY OF RECOMMENDATIONS

We have described the tremendous opportunities IHS has to reduce its costs by changing and improving the management of its supply support system. In 1988, the cost of supply support totaled approximately \$82 million, more than the total budgets of many IHS areas. From that amount, we have recommended methods to save as much as \$6.1 million annually and up to \$7.4 million in one-time inventory reductions, savings that can be reinvested into direct health care. As the cost of supplies continues to rise, our recommendations will provide IHS the means to limit their impact on operational costs in the future.

To achieve those savings we recommend that IHS implement the following actions:

- Establish a Division of Supply Management at IHS headquarters with the responsibility, authority, and the mandate to provide higher quality, lower cost, and equitable supply support to all service units
 - ▶ Establish operational standards for all supply functions
 - ▶ Issue policy for all supply functions
 - ▶ Establish an oversight capability
 - ▶ Establish subsystems such as transportation management, logistics communications, item standardization, demand monitoring, and satisfaction (establish system-wide contracts)
 - ▶ Set up supply training courses to increase the level of competence in the agency.
- Take over and then improve the operations of the PHS Supply Service Center in Perry Point, Md.
 - ▶ Clearly define the Center's mission, operational policies, and standards
 - ▶ Set annual goals and monitor goal achievement
 - ▶ Reduce the number of line items in stock

- ▶ Establish training programs for Center personnel
- ▶ Eliminate the Center's status as a mandatory source
- ▶ Establish a system for handling and shipping high-priority customer orders
- ▶ Implement a logistics communications system to reduce the transmission time for orders and order status between customers, the Center, and other Government depots
- ▶ Modify the Center's pricing policies to reduce markups, include transportation in item prices, stabilize prices for a year, and establish separate pricing policies for direct shipment from manufacturers
- ▶ Manage transportation to the customer's receiving dock to optimize cost and delivery time
- ▶ Institute not-in-stock procedures that make the Center responsible for material that is backordered from its primary sources
- ▶ Improve customer service by increasing the Center's hours of operation, establishing a system to track customer problems, providing an unconditional guarantee of satisfaction, publishing a monthly newsletter, meeting with customers, and continuously asking for feedback
- ▶ Add no new non-PHS customers until performance for PHS customers is improved
- ▶ Improve shelf-life management programs
- ▶ Establish a return program for expired pharmaceuticals
- ▶ Reduce operating costs.
- Centralize supply support agency-wide from a network of central warehouses initially comprised of the Perry Point Center and IHS's three central warehouses in Portland, Oreg.; Gallup, N. Mex.; and Ada, Okla.
 - ▶ Transfer ownership of those warehouses to IHS headquarters and contract their operation to the Portland, Navajo, and Oklahoma City areas
 - ▶ Determine acceptable delivery time standards from central warehouses to customers and then assign each IHS customer to a network warehouse

- ▶ Begin to transfer support of western customers from the Perry Point Center to western warehouses, then increase the staffing, facilities, and equipment in western warehouses to support those customers
- ▶ Use SSF for network operation
- ▶ Establish additional PHS receipt points for direct delivery from manufacturers
- Determine the optimum number of warehouses needed in the IHS network by using simulation models and performance data that will be collected from the initial four-warehouse network.

Implementing a long-term plan to change the way IHS manages supply support will be a difficult, complex task. It will require commitment at all levels in IHS, particularly by the Area Directors who must recognize that regional support will provide them with high-quality service at a substantially lower cost. With proper leadership, we believe that our recommendations will provide significant savings to the Indian Health Service.